

As a physician, I am greatly concerned about a glaring omission in the current discourse about natural gas and oil pipelines, which is the potential threat to rural community members' health. BC government documents about the Prince Rupert Gas Transmission Line specifically, have suggested that there is an acceptable risk of contaminating the air, water and soil in the fertile area of Northwestern BC, world-renowned for its fishing and wildlife. Specifically, those who live in the Kispiox, Peace, Nass, Coastal and Fraser Watersheds and the Bulkley Valley Lakes District Airshed are under threat. Environmental concerns are dismissed with claims that "mitigation activities" undertaken by industry will reduce the risk, yet few details are provided<sup>1</sup>.

The environmental reviews undertaken thus far rely on statistically-generated estimates of risk to the environment and to "human receptors" that ignore the realities of rural life. Those of us who live in these areas rely on wells and springs for our water, thus any degree of contamination of groundwater is a hazard to our health. Food security is at risk with the destruction of moose-calving habitat, clear-cut of vast swaths of wilderness and the disturbance of culturally significant wild-salmon spawns.

There have been dubious claims that air quality in the surrounding communities, often First Nations reserves that are less than 10 km away from the pipeline, will not be adversely affected despite increased vehicular traffic, the use of diesel-based heavy machinery or the combustion of natural gas to fuel the compressor stations along its route. These environmental reviews have not taken into account the local phenomenon of air inversion in the Kispiox and Bulkley Valleys, wherein wood smoke and other airborne particulates are trapped towards the ground instead of escaping out into the atmosphere. The potential for more severe exacerbations of chronic lung diseases due to inordinate exposure to pollutants released upon burning natural gas and trapped towards the ground has not been addressed.

Though government documents concede that "fugitive emissions" will be emitted from the pipeline even after construction, there has been no public acknowledgement of the potential for a catastrophic leak, such as that which is currently occurring in Porter Ranch, California. Although all safety protocols were apparently adhered to, this leak remains uncontrolled, and has already released 0.80 million tonnes of carbon dioxide into the atmosphere, equivalent to the consumption of 90 million gallons of gasoline, or one quarter of all methane emissions in California<sup>2</sup>. It may take up to four months before it is contained, jeopardizing the health of their residents and ecosystem for years to come.

Worsening air quality due to particulate matter and toxic gases such as sulfur dioxide (a component of acid rain) and carbon monoxide is of great concern when patients in this area have high rates of chronic lung diseases and tuberculosis and have trouble accessing medications either due to poverty or poor access to medical care. Chronic obstructive lung disease is exacerbated by airborne particulates and pollution, with the mainstay of treatment for flares and for severe cases being oxygen delivered intra-nasally. The wait time for life-saving home-oxygen in the Hazeltons can be over a week, versus forty-eight hours in the Lower Mainland. It is much longer in the winter-time. In Vancouver, home oxygen can be organized prior to a patient's discharge from hospital. This is not possible here. There is a dearth of resources and our community hospital, Wrinch Memorial, is chronically underfunded and understaffed. There may be only one nurse

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<sup>1</sup> [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_document\\_403\\_37577.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_document_403_37577.html)

<sup>2</sup> <http://www.porterranchlawsuit.com/>

for the entire emergency department and hospital working on any given night. There are no cardiac monitors, no advanced care paramedics and little accessed home-care. It may take over a month for residents to see their own family physicians. Emergency wait times, already too long for some patients such that they leave without being seen, may be even more prolonged with the influx of many intransigent workers.

Without parallel investments in health-care infrastructure, our hospital and staff would be unable to cope with the influx of thousands of migrant workers who have higher rates of communicable diseases, especially in the context of self-contained work camps. There will be more alcohol-related injuries which we have recently experienced in Kitimat, and prostitution, which comes with its own unique health risks.

We would be wholly unprepared for an increase in the exacerbation of respiratory diseases, let alone contamination of the food chain or a large scale industrial accident. Though the National Energy Board has published its National Engagement Tour report, outlining Canadians' desire for more oversight<sup>3</sup>, there has been no communication between the BC Liberal government and our local agencies in terms of emergency preparedness with regards to explosions of natural gas. How can a fire at a compressor station be attended to, when there is no local fire department in many of these areas?

The hasty approval of the pipelines by our provincial government betrays a poor understanding of the social determinants of health and overstates the proposed benefit. We have yet to characterize the net harm, especially to that of our health, as some of the risks such as groundwater contamination<sup>4</sup> and fracking-induced earthquakes<sup>5</sup> during natural gas extraction, have been waylaid with claims that this has not been well studied<sup>6</sup>. The United States Environmental Protection Agency has produced preliminary data that in fact debunks this<sup>7</sup> yet Canadians are laggards in arriving at the same conclusion despite the EPA referencing a case in Alberta. In the absence of meaningful legislation to protect our waterways in British Columbia and without effective health policy to protect rural residents' health, it has fallen upon citizens in these areas to soberly protest, risking arrest and their personal safety by creating human blockades (Flora Banks<sup>8</sup> and Suskwa Valley<sup>9</sup>). First Nations are disproportionately affected and must take it upon themselves to legally challenge the unilateral imposition of industrial activity on their land. They risk their civil freedoms and endure the financial burden of litigation, which further victimizes them and ensures their impoverishment.

It is easy to dismiss the environmental concerns and ignore the impending deleterious effect on our health when the allure of job creation in a traditionally impoverished part of the province is so strong. It's time however,

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<sup>3</sup> <http://www.nationalobserver.com/2016/01/12/news/neb-report-shows-canadians-want-stronger-response-pipeline-spills>

<sup>4</sup> <http://thetyee.ca/News/2016/01/13/Supreme-Court-Fracking-Battle/>

<sup>5</sup> <http://thetyee.ca/News/2015/08/20/Another-Fracking-Quake/>

<sup>6</sup> <http://thetyee.ca/News/2015/07/21/Fracking-Industry-Changed-Earthquake-Patterns/>

<sup>7</sup> <http://thetyee.ca/News/2015/06/08/Water-Pollution-Fracking/>

<sup>8</sup> <http://www.vancouversun.com/Northwestern+First+Nations+camp+halt+project/11322548/story.html>

<sup>9</sup> <http://www.vancouverobserver.com/news/why-gitxsan-built-camp-blockade-lng-pipeline-bcs-north>

that British Columbians reject our government's misleading promises and a reckless disregard for rural residents' health.