

## **New Brunswick Report into Public Health & Shale Gas Development [Fracking]. 2012**

The Chief Medical Officer of Health [CMOH] for New Brunswick, Canada, Dr Eilish Cleary, commissioned and published a report, in September 2012, into Shale Gas Development and its impact on Public Health. The report is very perturbing reading with regards to the risks we face with fracking.

Shale Gas Development is better known by the name Fracking or more correctly High Volume Hydraulic Fracking [HVHF] and has only recently become available to the oil & gas industry. HVHF is very different from the traditional fracking which has been used by the industry for the last sixty years. The scale and intensity of the new operations combined with the vastly increased amounts of water required has led some states in the USA and other Countries to consider this a new and unproven industry.

New Brunswick [NB] and the Northwest of Ireland share many similarities; notably both have many rural communities and small towns. Both areas also depend on the viability of their Agriculture and Tourism industries to sustain and underpin their local Communities and towns now and into the future.

The NB report is divided into four main parts

- 1) Guiding Principles for the Protection of Public Health.
- 2) What We Know Now and What We Don't Know Now.
- 3) Recommendations for the Protection of Public Health.
- 4) Conclusions.

Throughout this synopsis direct quotes from the CMOH report '*are in italics*'.

The Executive Summary states that

*'unless proper controls are put in place there is a risk of spoiling any benefits from economic gains through adverse health outcomes'. It goes on to say that 'Government needs to take targeted and strategic actions aimed at prevention and mitigation of negative health impacts, which includes building capacity in local and provincial services and infrastructure. These will need to be put in place prior to further development as the current infrastructure, capacity, processes and legislation are not adequate to meet these needs. In addition, as this industry is new and evolving, monitoring of the health of the population will be important on an ongoing basis to detect adverse impacts. This will allow for modifications, if warranted, a slow down or halting of further development.'*

Many aspects of Public Health that will be impacted by Fracking are dealt with in the report, one of which is the "Boomtown Effect".

*'This effect occurs when a rapid change in population, industrialization and economic prosperity also leads to a host of social ills that impact community health. These can include increased rate of crime, drug and alcohol abuse. Sexually transmitted infections[STIs] and domestic violence; inadequate supply of quality housing; increased cost of living; increased community dissatisfaction; increased mental and social services case loads; increased hospital admissions; insufficient infrastructure; insufficient capacity in public services, including policing, local government, social services and health care. The Boomtown*

*Effect is thought to be more intense for small communities with a traditional way of life that did not previously involve the industrial sector responsible for the boom.'*

The assumed positives of the "Boomtown Effect" don't always occur, the report says

*'One could expect that as a result of economic gains due to increased income, energy and employment, there would be an indirect positive benefit in health status as a result of this industry, however clear evidence to support this was not found in the course of this review'.*

The CMOH report covers all the areas of known and unknown risk relating to Fracking and this very fact that it is an evolving industry with a very short track record means that the precautionary principle and burden of proof considerations must be paramount.

**Precautionary Principle:** when an activity or occurrence raises threats of serious or irreversible harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

**Burden of Proof:** the burden of proof that an activity is not harmful falls on those undertaking the activity rather than on Public Health authorities to prove that the activity is harmful.

There are many recommendations in the report, all are common sense mostly relating to the gathering and monitoring of various markers, both direct and surrogate, of pollution and health. The very first recommendation states that equitable distribution of risks and rewards is required. Other recommendations refer to Protection of Health relating to changes in social and physical environments, protection of future generations and implementation and overseeing and monitoring of the industry.

All these recommendations will take time and money and the report states that much of the costs should be absorbed by the industry, however proper oversight is required to ensure proper independence between the industry and the regulators.

There are so many aspects to Fracking that impact on Public Health that much more detailed investigation is warranted before we make the 'dash for gas'. The United States Environmental Protection Agency (USEPA) is currently investigating the impacts of fracking on drinking water and ground water, the full report is due out in 2014. The CMOH report states

*'Although this [USEPA] will probably be the most definitive study ever regarding potential impacts on water, it is not designed to assess all the possible public health risks and as such is not a comprehensive Health Impact Assessment'*

The report continues;

*'The public discussion on shale gas has been dominated to date by chemical toxicity concerns and has focused on water and hydraulic fracturing chemicals; while these are important, there is a risk of overlooking other potentially more problematic considerations, such as community health issues and the potential for physical injury. The scientific literature and medical literature has not widely reported or studied factors such as potential impacts to community health, mental health and socioeconomic wellbeing but rather also has been focused on issues surrounding potential environmental toxicants'*

The report lists these environmental toxicants as including petroleum, heavy metals [mercury, cadmium, lead] radioactive waste and highly saline flow back fluid that all carry the risk of entering the surface or

ground water. Also present is risks to air quality, noise, vibration, continuous illumination and physical hazards due to extensive heavy truck use.

Public Health Departments need to be involved in the investigation of Fracking, yet to date they have not been, the report states

*'Although Health concerns are often noted as an important preoccupation among the public, there has been a notable lack of participation of Public Health agencies in many of the ongoing initiatives to regulate the industry elsewhere. This may be due to a general lack of understanding about the potential impacts on health, little precedent to draw on for learnings or plans that could be followed, a narrow scope of what "health" means, and/ or a belief that engineering controls and regulators can mitigate all of the potential impacts.'*

This CMOH report by Dr Cleary and her team is a timely reminder and warning that we should not take High Volume Hydraulic Fracking as a proven and safe industry. Fracking may well cost our communities dearly in health and health care costs if we do not take assess this risk properly.

*'Ultimately this simply translates to, what is the cost of being wrong about estimating risk? If we believe the risks are moderate and acceptable and can be mitigated but we are wrong, what is the worst that can happen? If we believe the risks are extreme and unacceptable and we are wrong, then what?'*

The above quote is a chilling message. This assessment of risk comes from a reliable and truly independent source whose job it is to protect Public Health. We must insist that the Government take heed and await the proper evaluation of Fracking by a comprehensive Health Impact Assessment. At present the Northern Ireland Government is planning only an Environmental Impact Assessment which entails a more superficial view of Health than is required. What is becoming apparent is that only a truly comprehensive Health Impact Assessment by trained Public Health Doctors can fully investigate the long term consequences for Public Health. Geologists, Engineers and Environmental Scientists all have their specific skills in the assessment of HVHF but none can properly assess Public Health. If the risks, once assessed, for the whole of society are deemed too high then fracking must not proceed.

Dr Carroll O'Dolan. MRCGP. Dec. 2012.