"Public health and shale gas", a presentation by Dr. Eilish Cleary, Chief Medical Officer of Health, New Brunswick, Canada.

On 28 January 2013, the Fermanagh Fracking Awareness Network (FFAN) organised a presentation in the Killyhevlin Hotel, Enniskillen. The main speaker was Dr. Eilish Cleary, Chief Medical Officer of Health, New Brunswick, Canada, the author of "Chief Medical Officer of Health's Recommendations Concerning Shale Gas Development in New Brunswick". The full text of this report is available at www.gnb.ca.

The meeting was chaired by Karl O'Dolan of FFAN and consisted of 4 parts:

1. An opening speech by Dr. Gary McFarlane, director of the Chartered Institute of Environmental Health
2. The presentation by Dr. Eilish Cleary
3. A Question and Answer session
4. A closing speech by Dr. John Graham, health issues researcher.

The complete meeting was filmed and will be available on the FFAN website www.frackaware.com, approximately from 7 February.

Dr. McFarlane, in his opening speech, pointed out that health is more than just the absence of disease, but consists of all aspects of the quality of our lives.
He said that there are conflicting opinions on fracking, because there is much confusion and a lack of information, as well as conflicting legal requirements in different countries. Fracking has direct effects (water, air and noise pollution and earthquakes) as well as indirect effects (on jobs, food, tourism), and because there is much that we don't know about these effects, it is wise to apply the Precautionary Principle. The economic considerations of fracking are small compared to those of agrifood and tourism, and even though gas is said to be cleaner than oil or coal, it is still a fossil fuel.
There are interdependencies between the environment and health, and a Health Impact Assessment (HIA) is needed as much as an Environmental Impact Assessment (EIA) before fracking commences. Due to the uneven distribution of incomes and risks of fracking, health inequalities can be exacerbated.

Dr. Eilish Cleary's presentation consisted of three parts: an introduction to Public Health, an introduction to fracking, and the recommendations from her report.
The Canadian province of New Brunswick is about the size of Ireland, but less populated. Its government has agreed to start fracking for shale gas, which is mostly still in the exploratory stage. In the USA and some other parts of Canada, fracking has been done for the last 10 years in its current form (multi-well pads, horizontal drilling and multi-stage fracking).

The key questions that informed her research were:

1. Does shale gas have a net benefit for human health or does it cause net harm?
2. How can we minimize the risks and maximize the benefits to human health?

The functions of the Office of Public Health consist of monitoring, protecting and promoting the health of the population as a whole, preventing disease and preparing for and responding to emergencies.
The prerequisites for health consist of environmental, social and economic factors (including peace, shelter, education, food, income, a stable ecosystem, justice and sustainable resources), and we need to focus on all three elements for a sustainable system.
Health hazards need to be identified, and their risk and the risk of exposure to them assessed and managed. The risk management process consists of prevention, mitigation, response and remediation/recovery. It is cheaper to prevent the damage than to clean it up afterwards.

After a very brief introduction to fracking she went on to say there was no solution yet for the disposal of waste water, but al other aspects of fracking also have to be looked at (trucking, drilling, etc.) and their risks assessed. In the event of an accident, the pathways of human exposure to contaminants can be mapped out (through air, soil, water, food, breast milk, in utero – via ingestion, inhalation or skin contact), and the health effects assessed. The exposure risk depends also on the location of the wellpad: people will be more exposed to risk if the pad is located within a town than when it is in the wood. Communities have to plan for mitigation of the risks.

The reason Dr. Cleary wrote the report "Chief Medical Officer of Health's Recommendations Concerning Shale Gas Development in New Brunswick" was that we don't know much about these risks and how likely they are to happen.
Regulation of the fracking industry (and other industries) usually only contains rules for protecting the environment (EIA). The assumption behind this was that this would automatically protect human health. But there are more aspects to health, and therefore a Health Impact Assessment is necessary. This is part of a community approach to planning and demands more forward thinking.

As the New Brunswick government have already decided to go ahead with fracking, the objectives of this report are: to identify measures that will allow for a net benefit to human health, to provide information to the public, as not much good information is available and to start a conversation on the acceptability of the risks.
The report is not a series of rules for the industry, and is not an overview of the health risks of fracking.
Dr. Cleary identified a large number of significant data gaps in our knowledge of the effects of fracking on human health: there is no standard approach to the social impacts, no HIA, no baseline population health studies, no information on the toxicity of chemicals used, no exposure data, no knowledge of the cumulative and lifecycle effects of fracking, no forecast of the rate of development of gas fields and the extent of exposure. And it will be too late to gather all this information once fracking has started.
The public debate has so far been dominated by toxicity concerns, while ignoring other potential health hazards: physical accidents, environmental pollution, socioeconomic issues (Boomtown Effect, social cohesion in communities), mental issues, the inequitable distribution of risk and reward. Public Health officials have overall been absent from the discussions about regulation of the industry.
The industry in its current form is only 10 years old and more discussion is needed on the possible cumulative effects over the lifetime of the industry and beyond that.

The potential economic benefits of fracking are great, but there are also potential economic risks due to market volatility, supply and demand cycles, competing jurisdictions, and the interests of other sectors like tourism and farming. Economic risks to governments include their investments in monitoring and management and long-term commitments into infrastructure. There are also environmental and public health risks.
We need to set up ways to protect public health, future generations and community wellbeing, by implementing and overseeing rules that bind the industry. In every industry, some companies are good, some are bad. The rules won't solve that but may offer some protection.

Dr. Cleary's recommendations are:

- to set up a consultative process, a group to oversee the implementation of rules, an ongoing dialogue, a multidisciplinary advisory committee and ongoing research
- local community engagement
- a Public Health role in community planning
- a consideration of the needs of First Nations (and other minority groups)
- public reporting of all environmental and health risks and chemical data
- a balanced distribution of risks and rewards
- planning how to make best use of resources
- planning how to protect areas that should not be developed
- planning how to report the implementation of these activities.

All views need to be respected, but the final decisions need to be taken by the community.

The Question and Answer session varied between questions on the report, questions on Dr. Cleary's personal views on fracking and the reading of a summary of a report on the health impacts and limitations of regulation of fracking in Australia.
The latter was written by Dr Geralyn McCarron, a GP in Brisbane who writes on the effects of fracking in Wieambilla Estate in the Australian bush, which is surrounded by gas fields. These effects include a high background level of illnesses, exacerbated by periods when many people are very ill all at the same time. Scientists have found high levels of methane in the air and river and a large variety of chemicals in air and rainwater. Dr. McCarron tested 3 people and found extremely high levels of hippuric acid (the main metabolite of the neurotoxin toluene) and methylethylketone in the urine of two of them. The Queensland authorities and the gas companies deny there are any health problems.
The gas from the area is pre-sold to China and will not benefit the local community. Three 500 km pipelines are being built from Queensland to the Great Barrier Reef, causing destruction to farms, rivers and soil.
Legislation only protects the gas companies and can be changed at will by declaring Significant Public Status, while regulations controlling the behaviour of farmers are stringent. People have no legal rights against the gas companies, and the only strategy that has had any impact so far has been community organisation and civil disobedience, denying the gas companies access to the land. This only works in strong and united communities. Based on her experiences, Dr. McCarron advises a complete ban on fracking in Ireland and the implementation of the Precautionary Principle.

Questions on various topics associated with the Dr. Eilish Cleary's report mainly showed that there was not enough solid information. Much information on the short-term health effects of fracking and water contamination is anecdotal and not researched in depth. There are no baseline studies done before fracking started, and no monitoring has been built into the system, so it is hard to gauge the precise effects. Studies have often been held up, and have been interpreted differently by different people. As this is a new industry, long-term effects cannot be seen yet, they will take at least 20-30 years to become apparent. Monitoring needs to be done carefully and publicly reported. Chemicals used should be disclosed. The Precautionary Principle must be used.
This was countered by the argument that many people in fracking areas know what has happened and have documented this, but the industry is calling the shots. Fracking without chemicals is impossible, even Chesapeake has admitted they can only reduce the chemicals by 25%.

The report is meant to minimize the impacts of fracking, but should ideally be implemented before a decision is made to allow fracking. Some recommendations would take decades to be implemented in Ireland. Even then regulation is only a tool, a set of rules for the industry, and a small part of what is needed.

Dr. Cleary's opinion is that it is important to regard fracking as a business case: does it make sense and are the rewards greater than the risks? The report is meant to open up the discussion. It was funded by the government of New Brunswick, who accepted it as written and didn't alter it, although they were not happy with it, because she asked questions and drew attention to non-discussed items. The government is now assessing this report, which is the only one of its type in the world.
The team that wrote the report consists of herself as Chief Medical Officer of Health and a number of her staff, who as medical doctors have the ethical duty to protect and promote health in the community.
The New Brunswick experience with shale gas is new and a pilot project has been proposed to gather data. This is currently being discussed.

The Irish EPA are conducting research and have set up a steering group, which does not contain anybody with health experience. It is important to have health professionals in this group. People should write to public representatives to get this accomplished. The study should incorporate life cycle and cumulative effects. EIAs and HIAs are only done for individuals projects (each individual wellpad) but not for the cumulative effect, and not for the very long period after the wellpads have been decommissioned but the underground processes are still continuing.
Once you know the size of a project, you can find the specific information. Tamboran is aiming for 60 wellpads with 1500 wells to be built over a period of 15 years.

A number of people attacked Dr. Cleary on her refusal to state whether she was for or against fracking. She stated that she didn't know enough about all the effects, both positive and negative, to have an opinion. In New Brunswick the decision has been made and the debate has become political. We need to look at all the impacts, and it is important not to take sides. It is important to give information in a way that it has maximum impact. A majority must decide whether or not it will go ahead.

A number of people against fracking called for a ban, and for people to get organized better to effect this. Then no regulation would be needed. FFAN was criticized for calling a meeting to condition people to regulation on fracking, rather than a ban. Chairman O'Dolan replied to this that FFAN is here to inform people of the different aspects of fracking, so we can be prepared.
It was stated that companies have all the power and the government has decided to go ahead with fracking. People can only make a difference if they speak up and organize.

In his closing speech, Dr John Graham reiterated that much emphasis had been put on the environmental impacts but not on the health impacts of fracking.
To affect government policy, evidence is needed, and a research programme should be established to gather this evidence. It is important to get baseline information, which can be done by the Public Health Observatory, which is established all over Ireland. A community-based and trusted HIA should be put in place.
Some of the toxological effects may take a long time, but sociological effects will appear faster.

Report by Brigit and Ron Beemster, for the Fracking Research and Information Centre.