

Lancashire County Council  
County Hall  
PO Box 100  
Preston PR1 0LD

cc. Individual members of Lancashire County Council + Dr Sakthi Karunanithi (Director of Public Health at Lancashire County Council) + Jo Turton (Chief Executive) + Andrew Mullaney (Assistant Director Environment, Planning & Countryside) + Stuart Perigo (Head of Development Management)

Dear Councillor,

**Re: Application no. LCC/2014/0096 & LCC/2014/0097 by Cuadrilla Ltd for exploratory wells at Preston New Road and Application LCC/2014/0101 & LCC/2014/0102 by Cuadrilla for exploratory wells at Roseacre Wood.**

Medact is a registered public health charity concerned with the social and ecological determinants of health. It has over nine hundred members, the majority of whom are public health specialists and clinicians with a wide range of expertise and knowledge.

Medact is currently producing an expert position paper on the health effects of hydraulic fracturing ('fracking') in the UK, based on the evidence about its safety and direct impact on health; its wider social, ecological and economic impacts; and the threat presented by greenhouse gas emissions and global warming.

This report is needed because of the absence of an authoritative and comprehensive assessment of the health-related costs and risks associated with fracking. A review of the potential health impacts of exposures to chemical and radioactive pollutants from shale gas extraction has been produced by Public Health England (PHE) (released as a draft in October 2013, and published in final form in November 2014), but was inadequate and incomplete; and] arrived at an erroneous, unsubstantiated and misleading conclusion.

The PHE review is inadequate for a number of reasons. Firstly, its scope was narrow and limited to the direct health impacts of fracking due to air pollution; water pollution; and land/waste issues. In its own words, *"other considerations, such as water sustainability, noise, traffic (apart from vehicle exhaust emissions), odour, visual impact, occupational exposure and wider public health issues, have not been addressed"*. Furthermore, it excluded the public health impacts of fugitive gas emissions and global warming. Secondly, it excluded an assessment of specific geological features in the UK such as seismicity and the proximity of shale gas beds to communities, farms and aquifers. Thirdly, it did not

consider the impacts of fracking on employment and the local economy. Fourthly, it formed its conclusions on the basis of “*likely operational practice in the UK*” and the presumption of effective process management, operation and regulation without any substantiation.

Although Medact’s position paper will not be published until February 2015, I am writing to express the view that **Cuadrilla’s planning application for exploratory wells at Preston New Road and Roseacre Wood should not be granted. Under current circumstances, these applications pose unacceptable risks to the health and well-being of local residents.** The case against industrial-scale fracking in Lancashire is even stronger.

The basis for these views will be substantiated in detail in Medact’s forthcoming report which will provide a detailed assessment of the evidence. However, I would like to briefly explain the reasoning that underlies the views expressed in this letter.

### Local and immediate health impacts

Fracking is an inherently risky activity. Environmental pollution (air as well as ground and surface water) *will* occur at all stages of the shale gas extraction process. Outdoor air pollutants include volatile organic compounds, tropospheric ozone, and diesel particulate matter. Pollutants in ground and surface water include benzene, hydrocarbons, heavy metals and naturally occurring radioactive material. Occupational hazards at the well pad include airborne silica exposure. These various pollutants include carcinogens, mutagens, teratogens, respiratory irritants and neurological, endocrine and haematological disrupters/toxins.

While some pollutants are known to have toxic and harmful properties, many have not been adequately studied while others have not been studied at all. Furthermore, while health-based safety standards for some chemicals and radioactive material have been established on the basis of sound empirical data, few of them take account of any ‘cocktail’ effects resulting from simultaneous exposure to multiple hazards.

The precise level of risk to human health from pollutants associated with fracking cannot be fully known. Hazards only become health risks if humans are exposed to them. But the extent of human exposure to the various hazards will vary from site to site, depending on multiple factors including the proximity, size and demographic characteristics of local communities; local geological factors; and the operating practices of fracking companies. In terms of the latter, the extent of pollution and human exposure will depend on various factors such as the structural integrity of wells; composition of fracking fluid; frequency of surface spills and leakage of hydraulic fracturing and natural contaminants from storage containers and during transportation; and the number of heavy transport vehicles required.

A growing body of data shows that fracking will *also* impact negatively on human health through a variety of other pathways including noise pollution, heavy traffic, spoilage of the natural environment, and effects related to social and economic disruption. While evidence exists about the many health benefits associated with green spaces, the psychological and mental health impacts of fracking are often ignored or under-reported in health research. Similarly, the impact of fracking on community cohesion and wellbeing is poorly recognised and rarely measured. There is emerging evidence of significant adverse social impacts on local communities due to the temporary influx of large numbers of short-term workers (often from outside the local area) and an economic ‘boom-and-bust’ phenomenon associated with fracking.

For the reasons described above, the claim of PHE that fracking is safe if properly practised and regulated cannot be substantiated on the basis of the available evidence which is inadequate and incomplete.

In the US (where there is the most extensive experience of the impact of fracking on local communities), key public and environmental health bodies the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry have concluded that it is not possible to say that unconventional shale gas extraction and production is safe and further research is needed before a judgment can be made.

What can be said with certainty is that **the risk of fracking in Lancashire will be particularly high** given its level of seismic activity, population density and agricultural activity. Furthermore, the type of fracking envisaged for Lancashire is intensive, high volume high flow (iHVHF) fracking which is particularly risky.

Lancashire County Council (LCC) should be applauded for having conducted a formal health impact assessment (HIA) of its own. The report produces a number of useful findings and recommendations including the need to ensure adequate systems for regulation, monitoring and surveillance; a call for further research and deliberation; and indication of the need for greater transparency and debate. Such recommendations provide a clear signal to LCC to give these concerns the attention they deserve and reject Cuadrilla’s current applications under the present circumstances.

At the same time, many of the deficiencies associated with the PHE report are relevant to this HIA as well. In short, LCC’s HIA is also incomplete, and certain areas of assessment are based on insufficient analysis and rigour. More importantly, LCC must expand the scope of its HIA, from the current limited focus on eight ‘exploratory wells’, to include an assessment of projected county-wide industrial-scale fracking. Limiting the HIA to the two proposed Cuadrilla sites is irresponsible and illogical; the relative merits of exploratory fracking can only be assessed if the case for industrial-scale fracking is also properly examined.

## Regulation and the duty to protect

In theory, appropriate and diligent practices and safety measures can minimise risk and mitigate harm. However, serious gaps and deficiencies in the current system of regulation indicate that risk will not be minimised and that harm will not be adequately mitigated. The view that safety standards and regulatory processes in the UK and EU are better than in the United States provides little assurance.

The Chartered Institute of Environmental Health (CIEH) recently noted that a *“combination of weak regulation, diminishing resources within regulatory bodies, inexperience of industry and regulators, lack of an appropriate monitoring framework, poor industry compliance and potential conflicts of interests within the planning regime is very disquieting”*. Among the more important deficiencies is the lack of clear legal requirement for a public authority to conduct independent, regular and direct inspections of shale gas operations. Furthermore, most of the recommendations for adequate monitoring and regulation which were proposed by the Royal Society and Royal Academy of Engineering (and which were accepted by the government) appear to have been ignored.

The lack of adequate and reliable regulation is of even greater concern in light of the fact that the government rejected suggestions to require fracking companies to secure a bond to insure themselves from any future liability. As a consequence, the bulk of the risk associated with fracking is left with local communities and public authorities, and not with the fracking companies.

Given the risks associated with fracking and the knowledge that the regulatory system is inadequate and under-resourced, the ‘precautionary principle’ points clearly to the need to reject the applications for exploratory fracking.

## Other concerns

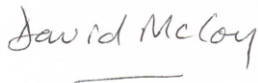
In addition to the immediate and local health problems associated with fracking, the LCC must consider the relationship between the development of an unconventional shale gas industry and the wider problem of global warming. Put simply, fracking is incompatible with the requirement for the UK to reduce its level of greenhouse gas emissions to the required level. As noted in numerous reports and scientific publications, global warming represents one of the biggest threats to human health in the UK and worldwide. Existing evidence and analysis suggest also that unconventional shale gas is neither a cheap nor a clean source of energy. Instead, what is required is a profound shift towards renewable energy as well as major improvements in energy conservation.

Finally, it should be pointed out that the case for social and economic benefit to local communities has not been made. The cost to local government and local public structures of even a minimum standard of regulation, monitoring and public safety measures has not been calculated. Neither has there been an adequate description of how the financial benefits derived from fracking will be shared across society and over time, nor how any financial gain that may be made by the local community

will exceed the negative impact on local environmental capital, housing prices and community wellbeing.

To my mind, Lancashire County Council has little option but to reject Cuadrilla's planning applications. This is a view that will be shared by many public health specialists. A detailed report will be published by Medact shortly; but until then, I will be happy to provide references and elaborate on any of the points mentioned here if requested.

Yours sincerely,



Dr David McCoy B.Med., Dip. Anaesth., Dip. Obs., M.Phil., DrPH, FFPHM

Director of Medact

David McCoy is a public health physician. He has worked across a range of public health issues as both an academic and practitioner, and has a doctorate from the London School of Hygiene and Tropical Medicine. He is a senior clinical lecturer in global health at the Centre for Primary Care and Public Health at Queen Mary University London and the Director of Medact. Recently he has worked as a Director of Public Health in London. Previously, he worked as a clinician for six years (first in the UK and then in a rural government hospital in South Africa). He has also worked as a health policy researcher at the Child Health Unit of the University of Cape Town, and as the Director of Research and Technical Support for the Health Systems Trust, an NGO established to specifically to support the transformation and development of South Africa's health care system.