Open Letter to the Chief Executive of Public Health England

Dear Mr Selbie,

We are writing to you as Chief Executive of Public Health England (PHE) and as a principle stakeholder tasked with the protection of the nation's public health, as stated amongst your organisation's responsibilities:

> *"...protecting the nation from public health hazards... improving the health of the whole population by sharing our information and expertise, and identifying and preparing for future public health challenges..."*[1]

In 2014 PHE published a report[2] entitled, *Shale Gas Extraction: Review of the Potential Public Health Impacts of Exposures to Chemical and Radioactive Pollutants.* In this report, PHE acknowledged the extremely hazardous nature of the shale gas industry but concluded that shale gas extraction or fracking (as it is more commonly known) presented a *'low risk'* to public health for this densely populated country. PHE instead of following the Wingspread declaration or precautionary principle, decided to rely upon mitigation through regulation to reduce the level of risk to the British population.

"…In conclusion, the currently available evidence indicates that the potential risks to public health from exposure to the emissions associated with shale gas extraction will be low if the operations are properly run and regulated. In order to ensure this, regulation needs to be strongly and robustly applied…"

As a consequence of this report, the government was, in effect, granted written permission from a 'trusted medical authority' to proceed with the development of the shale gas industry. Even though, as PHE acknowledged in their report, it was limited to the risks associated with chemical and radioactive pollutants only, and excluded risks associated with water sustainability, noise, traffic (apart from vehicle exhaust emissions), odour, visual impact, occupational exposure and the impacts of on climate change.

Subsequent Public Health Reports

Since the publication of the PHE report there have been other significant other health-based reports using evidence from peer reviewed academic articles from world renowned institutions such as the Johns Hopkins Bloomberg School of Public Health.[3] Therefore we would like to draw your attention to the following;

1. ***The Medact Report*** (and subsequent literature search review notes) which called for an immediate moratorium on fracking due to the possible serious public health risks associated with the shale gas industry.[4] [5]

[1] https://www.gov.uk/government/organisations/public-health-england/about#responsibilities
[2] https://www.gov.uk/government/publications/shale-gas-extraction-review-of-the-potential-public-health-impacts-of-exposures-to-chemical-and-radioactive-pollutants
[3] *Rasmussen SG et al Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations JAMA Intern Med. 2016;176(9):1334-1343*
[4] https://www.medact.org/project/fracking/
[5] https://www.medact.org/wp-content/uploads/2016/09/Medact-Notes-on-Shale-Gas-September-1.pdf

"*...the biggest threat posed by shale gas is via global warming, but there are also direct risks to the health and wellbeing of local populations. What is striking is the lack of an integrated social, economic, environmental and health impact assessment of fracking*".

2. ***The Compendium of Scientific, Medical and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction) Fifth Edition March 2018: Physicians for Social Responsibility.***[6] A report that was instrumental in leading to a ban on fracking in New York State.

   "All together, findings to date from scientific, medical, and journalistic investigations combine to demonstrate that fracking poses significant threats to air, water, health, public safety, climate stability, seismic stability, community cohesion, and long-term economic vitality. Emerging data from a rapidly expanding body of evidence continue to reveal a plethora of recurring problems and harms that cannot be sufficiently averted through regulatory frameworks. There is no evidence that fracking can operate without threatening public health directly or without imperilling climate stability upon which public health depends."

3. ***A Health Impact Assessment of Unconventional Oil and Gas in Scotland*** produced by Health Protection Scotland and the Scottish NHS in 2016.[7] A document which assisted in the moratorium on fracking in Scotland.

   "If UOG development is permitted in Scotland in future, the evidence reviewed to date on UOG hazards, potential health impacts and wider health implications, although lacking in quantity, quality and consistency, would justify adopting a precautionary approach. This should be proportionate to the scale of the hazards and to the potential health impacts, both adverse and beneficial. It could be based on adopting a range of mitigation measures involving operational best practice, regulatory frameworks and community engagement."[8]

In summary, all of these reports have been based on a broader approach than the PHE report and concluded that a there are unacceptable public health risks associated with the shale gas industry. They have all agreed that a precautionary approach should be taken with respect to the Shale Gas industry. So why has there been a different approach in England?

Contemporaneous Critical Appraisals

1. British Medical Journal Editorial 2014

Law et al in their BMJ editorial in 2014 stated that it was incorrect to assume issues encountered in the USA would not occur in the UK, that the issues were as a result of poor regulatory process rather that the inherent hazardous nature of the process and more attention should be paid to the impact of drilling in areas that are densely populated as in the UK:

[6] https://www.psr.org/wp-content/uploads/2018/04/Fracking_Science_Compendium_5.pdf
[7] https://www.hps.scot.nhs.uk/resourcedocument.aspx?resourceid=3101
[8] https://www.hps.scot.nhs.uk/resourcedocument.aspx?resourceid=3102

"Unfortunately, the conclusion that shale gas operations present a low risk to public health is not substantiated by the literature. The correct conclusion that Public Health England should have drawn is that the public health impacts remain undetermined and that more environmental and public health studies are needed. And that the correct conclusion which Public Health England should have drawn, was that the public health impacts remained undetermined and that more environmental and public health studies were needed." [9.]

2. UK Faculty of Public Health 2016

The Faculty of Public Health (FPH) urged the government to reverse its approval for fracking in Lancashire and in October 2016, UK FPH President Professor John Middleton said:

"The regulatory system for fracking is incomplete and weak. "

FPH has endorsed the findings of the *Medact* report that calls for an immediate moratorium on fracking due to the possible serious public health risks involved, which include:

- Potential health hazards associated with air pollution and water contamination; these include toxins that are linked to increased risks of cancer, birth defects and lung disease
- Negative health impacts associated with noise, traffic, damage to the natural environment and local social and economic disruption
- The indirect effects of climate change produced by greenhouse gas emissions.

Professor Middleton concluded:

"The precise level of risk to human health from fracking cannot be calculated. Intensive levels of fracking activity could pose additional risks in the UK when compared to experiences elsewhere because of the proximity and size of surrounding populations." [10]

And yet, PHE has refused to revisit the 2014 Public Health assessment report of fracking even though these significant further sources of evidence have emerged regarding the adverse health effects of Fracking.

Royal College of Physicians (RCP): Every Breath we take: the lifelong impact of air pollution

In 2016, the RCP published a report entitled, *Every Breath We Take: A Lifelong Impact of Air Pollution.* The report includes a foreword from the Chair of the European Respiratory Society Task Force on Air Pollution and explores the impact that chronic air pollution is having on the nation's health. This highlighted the adverse health impacts of air pollution as the cause of 40,000 deaths annually. Among the recommendations was a call for tougher regulations on pollutant emissions, the very same air pollutants which are associated with the shale gas industry.

[9] Law et *al* Editorial: Public Health England's draft report on shale gas extraction. *Mistaking best practices for actual practices*. *BMJ* 2014; 348 doi: https://doi.org/10.1136/bmj.g2728

[10]http://www.fph.org.uk/government_gives_green_light_for_fracking_%E2%80%93_and_for_serious_public_health_and_environmental_risks

"While there is abundant literature on the adverse health effects of air pollution, this report specifically concentrates on the newly recognised, insidious effects of chronic and persistent pollution exposure from conception to old age. It takes account of total pollution exposure sources, both outdoors and indoors, as well as the influence of combinations of pollutants acting together and, finally, viewing air pollution as a stressor that interacts with many other stressors such as diet, socio-economic deprivation and climatic conditions to create reduced health and increased susceptibility to disease. In taking a holistic and multidisciplinary view of the current air pollution problems and trends over time, we have identified this as a major public health problem, which we address in a series of recommendations that mandate urgent and definitive interventions to protect the public, especially those people in society who are most vulnerable." [11]

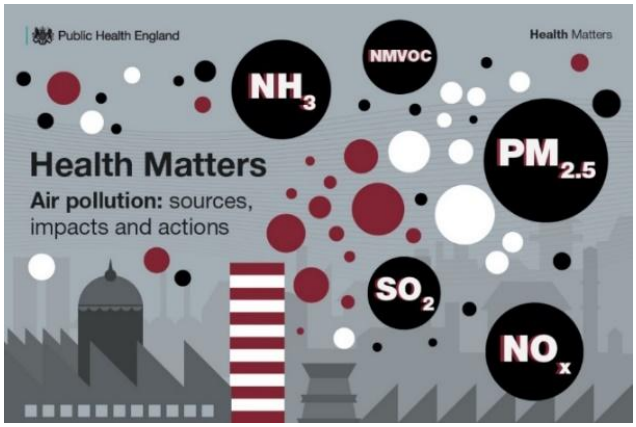
Air Quality Impacts of Shale Gas Extraction and the Cleaner Air Strategy 2019

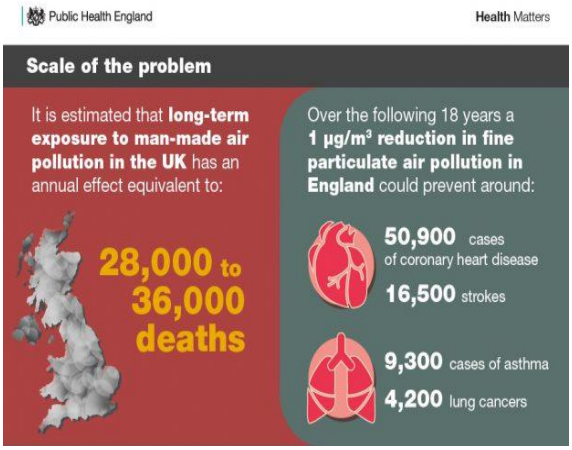
In 2018, the UK Air Quality Expert Group (AEQG) published their report, Potential Air Quality Impacts of Shale Gas Extraction in the UK, (after a 3year delay). The contents of which warned that the proliferation of a hydraulic fracturing industry was likely to increase the levels of air pollution due Nitrogen Dioxide, Particulate Matter , Non Methane Volatile Organic Hydrocarbons and Methane [12]

It is noteworthy that this report was written in 2015 but only published in 2018 after significant pressure was placed upon the Government by environmental groups and after permission had been granted by the Government for fracking to commence in Lancashire.

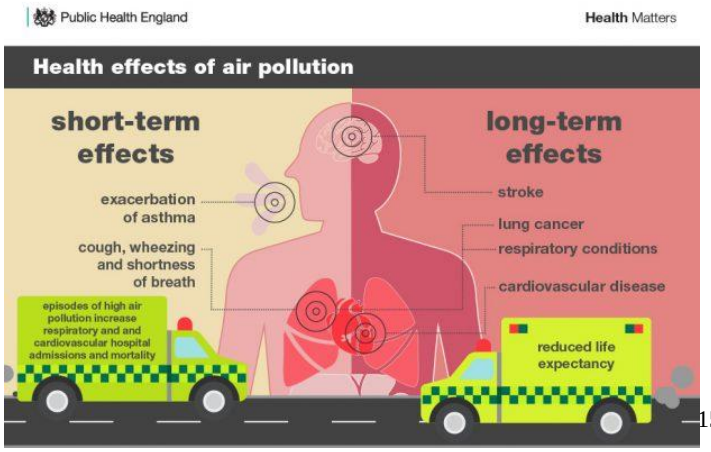
More recently the UK Government has released its Clean Air Strategy-2019[13]. Public Health England, as a governmental department is involved with the application of this strategy, has issued a document which outlines the key principles and aims of this policy. All of the air pollutants which the AQEG have raised concerns about with a developing fracking industry are mentioned in this document. Not only are they mentioned but acknowledged by Public Health England to be a cause of illness and death.[14]

Here are some of the schematics contained within this document:





[11] https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution
[12] https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1807251315_AQEG_Shale_Gas_ExtractionAdviceNotevfinalforpublishing.pdf
[13] https://www.gov.uk/government/publications/clean-air-strategy-2019
[14] https://publichealthmatters.blog.gov.uk/2018/11/14/health-matters-air-pollution-sources-impacts-and-actions/



[15]

Could this be indicative of a cognitive dissonance on behalf of the UK Government and Public Health England? On the one hand, the UK Government supports an industry which is acknowledged by its own expert panel to have the potential for increased air pollution with the very same air pollutants which are acknowledged by its own Public Health department to impact adversely on Public Health.

One must question whether or not the Government and PHE are truly committed to the "Cleaner Air Strategy 2019"[16] when they have refused to review the 2014 Public Health assessment report of the shale gas industry, even though significant further sources of evidence have emerged regarding the adverse health effects of air pollution associated with fracking.

It is widely accepted that the UK has a serious air pollution problem which presumably is the reason why the Secretary of State for Health and Social Care, Matt Hancock, has made the following statement:

"I'm here, as Health Secretary, because ***air pollution is a health emergency***. *When it comes to our health, there's lots of things we can take personal responsibility for: what we eat, how we exercise and whether we smoke, for instance. And I'm no nanny state politician. I believe personal responsibility is important. But around a third of what determines the length of our healthy life is the environment we live in – the things we can't, alone, do anything about. And of those environmental causes of healthy life expectancy, the biggest factor is the air we breathe. The biggest single environmental cause of death is air pollution. Air pollution causes chronic conditions, and shortens lives. In short: air pollution kills. Clean air saves lives."*[17]

PHE Freedom of Information Request (FOI) 2018

In an attempt to ascertain the reasons why a further report has not been commissioned by PHE a FOI was submitted to PHE.[18] Information requested included the existence of further

[15] https://publichealthmatters.blog.gov.uk/2019/01/15/the-clean-air-strategy-we-all-have-a-role-to-play-in-tackling-air-pollution/?fbclid=IwAR0p-BnWJI9iKkKNM5odHT_EEP0rzJSHYw-qj4bBFRD0vGTDtIlygD4_vYE
[16] https://publichealthmatters.blog.gov.uk/2019/01/15/the-clean-air-strategy-we-all-have-a-role-to-play-in-tackling-air-pollution/?fbclid=IwAR0p-BnWJI9iKkKNM5odHT_EEP0rzJSHYw-qj4bBFRD0vGTDtIlygD4_vYE
[17] https://www.matt-hancock.com/news/air-pollution-health-emergency-speech
[18] https://www.whatdotheyknow.com/request/review_of_public_health_england?nocache=incoming-1300954#incoming-1300954

literature searches conducted by PHE, who was responsible for those literature searches, how they were assessed and whose responsibility it was to decide on whether a further report should be commissioned or not . As a result of the information provided by PHE it has been revealed that since 2014 only 64 health related articles have been reviewed ,which equates to only 15% of the total of articles reviewed by unnamed individuals at PHE .

There is no mention of the *Medact* reports, the *Scottish Government Health Impact Assessment*, *or the Physicians for Social Responsibility report*, all of which have been accepted internationally as important contributions to the knowledge base of the health impacts of the shale gas industry. There are now over 1,000 peer reviewed articles contained within these documents. This appears to be a major omission on the part of Public Health England. Why have these documents, including their references, not been included?

It is Time for an Updated and Comprehensive Report.

Why have PHE chosen not to produce an updated health impacts report? PHE state that they are undertaking an ongoing literature review. However, this would appear to be rather limited and more engineering focused than health focused.

But it is not only health professionals who have criticised PHE. As you will be aware, since you were called to give evidence as chief executive of PHE, to the House of Commons Health Committee in 2015. PHE was criticised by the members of this Committee including questioning the impartiality of the report:

> *''...One of the committee members suggested that PHE, nominally independent, appeared to be serving the policy agenda of a government promoting the potential of fracking..."* [19]

Conclusion

It is irrefutable that the hydraulic fracturing industry is of an inherently hazardous nature, whether that be due to the substances hazardous to health such as PM 2.5, volatile organic compounds e.g. benzene or endocrine disrupting agents, physical hazards e.g. noise and vibration, radioactive material e.g. radon, accidents, excessive HGV traffic or respirable dusts e.g. silica. Some of these hazards are classed as carcinogens and as such it is accepted that there is no safe limit. Moreover, Public Health England, has accepted that there are hazards harmful to health but have dismissed them as being "low'' due to the ability of the UK regulatory system. An assumption which is disputed by many.

PHE appears to have no plans to publish an updated review of their old report on Shale Gas, even with the proliferation of evidence of the risk of adverse health impacts since 2014, the banning or moratorium in the rest of the UK and the *International Panel on Climate Change* report.[20]

Rather than conduct an independent health-based review, PHE appears to have allied itself with the pro-fracking UK Government, in suggesting that the risk can be mitigated and reduced to an acceptable level through regulations that have already been found to be inadequate. Our regulatory system has not prevented the UK from having or being criticised

[19] BMJ 2015;351:h5826 doi: 10.1136/bmj.h5826 (Published 3 November 2015)
[20] https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

for having unacceptable levels of air pollution from as early as 2014 [21] . Moreover, as the 2019 Cleaner Air Strategy has shown, this situation has since deteriorated.

Even the IPCC report on climate change[22] , which has declared a climate emergency and advised that the use of fossil fuel should be curtailed, has not stimulated PHE to review their shale gas report.

The time has come for you, as the Chief Executive of PHE, to reflect on previous inaction and publish an updated review of the old Shale gas report. An updated review that is health based and people focused, not engineering based and "receptor" focused. It should, of course, be representative of existing worldwide health research and the impacts of climate change on health.

Previous requests for a further PHE review from members of the medical profession, environmental groups and local communities have apparently fallen on deaf ears. A petition of 6,000 people has remained unacknowledged by PHE since August 2017.[23] [24]

The medical profession not only has a duty to protect the health of individuals and to do no harm, but also has a duty to protect the health of populations. We cannot in all conscience stand by, without making comment on what many now consider to be a negligent failure by Public Health England in refusing to publish an updated review.

We hope that you will understand our genuine concern and look forward to your reply within a reasonable timeframe.

Yours Sincerely

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Honorary Assistant Professor Nottingham Medical School.

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Retired Consultant Haematologist (Co-author, *Health & Fracking: The impacts and opportunity costs.* Medact, London, 2015).

[21] https://www.bbc.co.uk/news/uk-26851399
[22] https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf
[23] https://www.desmog.co.uk/2017/08/31/fracking-health-impacts-review-long-overdue
[24] https://drillordrop.com/2017/08/02/august-2017-drilling-headlines/170831-phe-petition-presentation/