Government
Legal Department

Dr Phillip Barlow
Assistant Coroner
Southward Coroner's Court
1 Tennis Street
London
SE1 1YD

Litigation Group
102 Petty France
Westminster
London
SW1H 9GL

T 020 7210 3000

DX 123243, Westminster 12 **www.gov.uk/gld**

Your ref: **Inquest**
Our ref: [redacted]

17 June 2021

Dear Sir

Inquest touching the death of Ella Adoo Kissi-Debrah

Response to Regulation 28 Report

1. This letter is sent on behalf of the Department for the Environment, Food and Rural Affairs ("**Defra**"), the Department for Transport ("**DfT**") and the Department for Health and Social Care ("**DHSC**") in response to the Regulation 28 Report to Prevent Future Deaths, and accompanying reasons of 20 April 2021 ("**the Report**"). The Central Government Departments are referred to collectively as "**the CGDs"**.

2. In providing this response to the Coroner's Report, the CGDs wish to repeat the offering of their sincere condolences to Ella's family, and emphasise their commitment to addressing the matters of concern raised by the Coroner.

3. The Report arises from the re-opened Inquest into the death of Ella Adoo Kissi-Debrah ("**Ella**") on 15 February 2013. The conclusion at the end of the Inquest was that Ella died of asthma, with air pollution being a significant contributory factor to both the induction and exacerbation of her asthma. The matters of concern identified in the Report were that:

[redacted]

a) National limits of Particulate Matter are set at a level far higher than guidelines set by the World Health Organisation ("**WHO**"). This concern was addressed to the CGDs.
b) There is a low public awareness of the sources of information about national and local pollution levels. This concern was addressed to the CGDs, the Mayor of London and the London Borough of Lewisham.
c) The adverse effects of air pollution on health are not being sufficiently communicated to patients and their carers by medical and nursing professionals. This concern was addressed to a number of named professional organisations, and sent to DHSC for information.

4. Accordingly, the CGDs focus on addressing concerns 1 and 2. In the event that you would be assisted by any further information from the CGDs, in relation to any of the concerns, the CGDs will of course seek to obtain and provide the requested information.

Concern 1: Review of National Limits for Particulate Matter

5. The CGDs note the Coroner's concern that the UK's current national limits for particulate matter concentrations are higher than the guidelines set by the WHO. The CGDs accept that there is more work to be done at the national level to reduce overall concentrations of particulate matter. The Environment Bill currently making its way through Parliament will make provision for the introduction of a) an annual mean concentration target for $PM_{2.5}$ in ambient air; and b) a population exposure reduction target for $PM_{2.5}$. An extensive public consultation is being planned to take place over the course of the next year.

<u>The Current Position</u>

6. Following the United Kingdom's departure from the European Union, the limit values established under the Air Quality Standards Regulations 2010 (S.I.2010/1001 ("**the Regulations**") continue to apply.

7. The emission limits set out in the Regulations are:
   a) PM_{10}: -
      i. A 24 hour daily mean of 50 $\mu g/m^3$ not to be exceeded more than 35 times per year.
      ii. An annual mean average of 40$\mu g/m^3$.

b) $PM_{2.5:}$ - an annual mean of 25 μg/m^3 was to be met by 1 January 2015. This was amended by regulation 2 of SI 2020/1313 to 20 μg/m^3 which was to be achieved by 2020 as well as a 15% national exposure reduction target set between 2010 and 2020 (See Schedules 2 and 7 to the Regulations). Both of the targets have been met.

8. These limits have, since 1 January 2005, formed national objectives set under the Air Quality (England) Regulations 2000 (SI 2000/928) and the Air Quality Standards Regulations 2010 (SI 2010/1001)

9. Whilst there is no doubt that at a national level air pollution has reduced significantly since 2010 – emissions of fine particulate matter have fallen by 11%, while emissions of nitrogen oxides have fallen by 32% and are at their lowest level since records began, equally there is no doubt that there is more to do.[1]

The WHO Guidelines

10. The WHO published Air Quality Guidelines for Particulate Matter, ozone, nitrogen dioxide and sulphur dioxide in its publication *Global Update 2005* [22/7511 to 7622] ("**the 2005 update**"). In addition to "air quality guideline values", this document contains interim targets for various pollutants and identifies incremental steps *en route* to progressive reduction in areas where pollution is high (supra at page 8).

11. In terms of air quality guidelines ("**AQG**") the 2005 update explains (see page 7): -

> *The WHO air quality guidelines (AQGs) are intended for worldwide use but have been developed to support actions to achieve air quality that protects public health in different contexts. Air quality standards, on the other hand, are set by each country to protect the public health of their citizens and as such are an important component of national risk*

[1] To this end Government has put in place a £3.8 billion plan to improve air quality and cleaner transport, which includes:

1. £1.5 billion in funding to support charge point infrastructure and grants to support uptake of ultra-low emissions vehicles, which has now risen to £3.5 billion following subsequent funding announcements;
2. Since then, the Prime Minister has launched ambitious plans to boost walking and cycling in England, with a vision that half of all journeys in towns and cities are cycled or walked by 2030. This includes a £2 billion package of funding for active travel over 5 years;
3. £880 million to help local authorities develop and implement local air quality plans and to support those impacted by these plans.

In addition, Defra is continuing to drive forward the actions outlined in the Clean Air Strategy, and has passed legislation to phase out the sale of house coal and small volumes of wet wood for domestic burning which came into force on 1 May 2021, with a particular view to tackling $PM_{2.5}$ pollution

management and environmental policies. National standards will vary according to the approach adopted for balancing health risks, technological feasibility, economic considerations and various other political and social factors, which in turn will depend on, among other things, the level of development and national capability in air quality management. The guideline values recommended by WHO acknowledge this heterogeneity and, in particular, recognize that when formulating policy targets, governments should consider their own local circumstances carefully before adopting the guidelines directly as legally based standards.

12. The 2005 update therefore makes it clear that the AQG should *not* be regarded as standards in themselves, but rather as guidelines to be considered in the context of prevailing exposure levels and environmental, social, economic and cultural conditions (see also: Evaluation of the WHO air quality guidelines: past, present and future (2017)[2]) at p29: -

    It has repeatedly been stressed that the guidelines are not intended to be taken as recommendations for air quality standards per se, but rather as a rigorous scientific tool that can be used by regulatory authorities as a basis for setting standards, taking into account local socio political and economic conditions and prevailing ambient concentrations of air pollutants. Cost–benefit analysis of various pollution reduction options is an increasingly common tool supporting development of air quality policies. The evaluation of evidence provided by the WHO guideline process, and not only the numerical guidelines, is an essential input to such analysis.

13. The AQGs developed in relation to: -
    a) PM_{10} (also described in the guide as "coarse particulate matter") identify a figure of 20 $\mu g/m^3$.
    b) $PM_{2.5}$ identify a figure of 10 $\mu g/m^3$.

14. As recognised in the 2005 update the extent to which reductions in small particle concentrations to or below the guideline levels recommended by the WHO are technically feasible will vary from country to country and will depend on local circumstances.

[2]https://www.euro.who.int/__data/assets/pdf_file/0019/331660/Evolution-air-quality.pdf

15. To illustrate the extent of this variation by reference to the United Kingdom, the highest background $PM_{2.5}$ concentrations across the UK (modelled in 2019[3]) was 14.8 µg/m^3 and the lowest 2.4 µg/m$^{3.}$ These variations arise in part from natural sources and transboundary contributions to concentration levels of small particles, which in South East England is around 7 to 8 µg/m^3, whereas in the north of England it is around 4 to 6 µg/m3.[4]

16. Additional factors that influence the background concentration include season and weather conditions. At times, depending on wind direction and other circumstances, around a third of the background concentration level of small particles in the United Kingdom (up to 50% on specific days) are from sources outside of the UK (for example, from continental Europe)[5]. On top of this are the anthropogenic contributions from UK sources, which vary from region to region but in major urban areas are in the range of 3-6 µg/m^3 above the rural background. The impact of local sources increases concentrations further, for example alongside busy roads there is generally a 1-2 µg/m^3 increment on top of the urban background.

17. As a result of these factors, the concentrations of small particles that people inhale at a particular place are composed of primary emissions from natural and anthropogenic sources, and the resuspension of particles from activity in the local area. A locally produced spike of particulate pollution, will add to a background level comprising particulates that have blown in from other areas within the UK (Regional Sources, such as the South East, North West of England) or transboundary sources such as continental Europe, depending on the prevailing weather conditions.[6]

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[3] https://uk-air.defra.gov.uk/data/pcm-data: *Graph from Clean Air Strategy showing background levels across the country*

[4]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf (page 29): "The concentration gradients from north to south and east to west across the country are shown in the graph there contained, taken from the 2019 Clean Air Strategy, which shows the natural components (for example from sea salt and rural dust) and transboundary emissions (distant sources). Emissions from the United Kingdom adding to this: local sources, for example from nearby roads or domestic burning, but neighbouring towns and industry also have an impact. Secondary $PM_{2.5}$, generated by chemical reactions in the atmosphere between other types of pollutants, can be a result of emissions in other parts of the country, carried by the wind."

[5] The sources from continental Europe are similar to those that generate anthropogenic emissions in the UK and include agricultural activity, industrial activity, domestic burning and transport. The concentrations that accumulate as a result of these emissions reaching the UK depend on the prevalent wind directions, meteorology and scale of the source activity, combined with rate of atmospheric process. If the wind direction is from Eastern Europe then downwind emissions are influenced by coal burning industrial activity. From central or western Europe the sources are predominantly agricultural but can include emissions from industrial activity from the Rhine and other industrial areas.

[6] Some of these particulates form as a result the chemical conversion of other pollutants e.g. ammonia released from agricultural sources and are known as secondary particulates. The chemical mix, diversity, and concentration of pollutants changes continually, dependent on the pollutants being emitted locally, emitted from

18. Returning to the 2005 update, the report also acknowledges that the feasibility and social and economic costs of the steps which need to be taken to achieve particular levels of reduction in air pollution must be weighed against the degree to which the reduction improves the level of health protection. In this regard, there can be no doubt that to achieve reductions in small particle pollutant concentrations in a large and densely populated city such as London, significant interventions and controls need to be implemented. The sheer number of different activities involving friction or combustion (which generate $PM_{2.5}$ emissions)[7] that need to be carried out on a daily basis, in a confined area such as London, inevitably impacts on what is feasible – both technically and socio-economically. Furthermore, even where steps are taken to address one source of pollutant, there remain others in relation to which technically a solution is not yet available. As such, given this multitude of different sources of pollutants there are no easy or quick fixes to deliver significant reductions of particulate concentrations, particularly in densely populated urban environments.

19. The 2005 update recognises that inevitably there will be local areas with characteristics which pose particular challenges in seeking to achieve reductions in air pollution at p 8:

> *Air pollution levels may be higher in the vicinity of specific sources of air pollution, such as roads, power plants and large stationary sources, and so protection of populations living in such situations may require special measures to bring the pollution levels to below the guideline values.*

20. Lastly under this heading, turning to interim targets, the 2005 update identifies the following: -
    a) For $PM_{10,}$ interim targets of 70 µg/m3, 50µg/m^3 and 30µg/m^3.
    b) For $PM_{2.5,}$ interim targets 35µg/m^3 25 µg/m^3 and 15 µg/m^3 .

<u>The Clean Air Strategy, the Environment Bill 2020 and a greater focus on WHO guidelines</u>

21. In accordance with the objectives underpinning the 2019 Clear Air Strategy, the Government has committed through clauses 1 and 2 of the Environment Bill[8] to setting: - (1) an annual mean concentration target for $PM_{2.5}$ in ambient air, and (2) at least one further long-term air quality target which we propose will be a $PM_{2.5}$ population exposure reduction target.

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sources considerable distances away, and changing weather conditions that influence the dynamic chemistry in the atmosphere, and how the pollutants are dispersed.

[7] For example, trains, buses, planes, construction and road works, heating homes and business premises.

[8] The Environment Bill is currently undergoing passage through the House of Lords:

22. The concentration target will be set for all areas of the country, regardless of current exposure. Since publishing the Clean Air Strategy, we have used the World Health Organisation guidelines on $PM_{2.5}$ to inform our ambition in shaping these targets. In respect of concentration targets on 19 August 2020 Defra published a target framework: *Environment Bill - environmental targets.* This included the following proposal with respect to $PM_{2.5}$ [9]:

> *By introducing a new concentration-based target we will improve the 'minimum' level of air quality across the country. We have considered the progress our actions to meet our emission reduction commitments will deliver in terms of reducing $PM_{2.5}$ levels across the country and how levels will compare to WHO guideline levels. This was outlined in our evidence paper published in July 2019. The work stated that whilst it was technically feasible to reach WHO guidelines levels, additional action will be needed in order to reduce levels towards WHO guideline levels most notably in London and other large urban areas. Professor* [redacted] *(Chair of the Air Quality Expert Group in the UK) outlined during committee stage of the Environment Bill that it may not be possible to reach those levels everywhere. More work is required in order to establish what an ambitious but achievable target should be (setting a level and a date for achievement).*
>
> *Whilst a new concentration 'threshold' target will be challenging to meet in certain parts of the country (especially in densely populated urban areas), it will not drive action to improve air quality in parts of the country which already achieve the threshold value. Such a target will also not drive action once that threshold level has been achieved. Therefore, a concentration 'threshold' target alone is unlikely to result in the greatest public health benefit. To put it in context, Public Health England estimate that just a 1µg/m3 reduction in $PM_{2.5}$ concentrations could prevent 50,000 new cases of coronary heart disease and 9,000 new cases of asthma by 2035.*

23. It was in view of the latter concerns that, in addition to the concentration target, consideration was to be given to introducing a target aimed at reducing average population exposure to $PM_{2.5}$ across England, with a view to driving continuous improvement across all areas of the country in order to maximise the public health benefit. As was recognised, population exposure targets

[9] https://www.gov.uk/government/publications/environment-bill-2020/august-2020-environment-bill-environmental-targets

are complex and more work was needed to develop a viable methodology for achieving the reduction targets.[10]

24. The exposure reduction target will be developed to drive reductions not just in pollution "hotspots", but in all areas, with corresponding long-term health benefits. As with the concentration target, exposure reduction targets will be set having regard to scientific advice that there is no "safe threshold" for $PM_{2.5}$ below which there are no negative health impacts, and to the feasibility and economic cost of the various alternative steps that are technically available to implement.

25. Further to considering the World Health Organisation guidelines and the advice of a wide range of independent experts in shaping both targets, the Government will commit that the new Office for Health Promotion, working across Government, will consider as a priority how public health benefits can be achieved through reductions in population exposure to $PM_{2.5}$ via an action plan, taking into account the particular circumstances experienced in London and the South East.

26. The setting of the targets will be informed by iterative engagement with key umbrella organisations throughout the target setting process, together with consultation with key stakeholders who will be invited to provide written responses on proposed targets within each priority area, in order to obtain views on the ambition, evidence and achievability of target proposals.

27. An Impact Assessment will accompany the consultation and consider the environmental and socio-economic considerations associated with each target.

28. In addition, the Secretary of State is required (Clause 7 and 8 of the Bill) to prepare: - (i) an environmental improvement plan setting out the steps the Government intends to take to improve the natural environment in the period to which the plan relates, and (ii) annual reports setting

[10] Independent technical advice for the development of air quality targets is provided to Defra by the Air Quality Expert Group (AQEG), together with the Committee on the Medical Effects of Air Pollutants (COMEAP).
At the request of Defra, AQEG sought input from the wider research community on future $PM_{2.5}$ concentrations in England via a Call for Evidence. This information received will be used to provide context and interpretation of model runs conducted specifically to inform target setting.
The AQEG is undertaking a further review of all evidence to produce a summary synthesis, which will form part of the supporting evidence to accompany the public consultation on air quality targets. That report, and all contributions received will be published on the UK-AIR website.
In addition to independent expert advice, Defra is utilising a wide-ranging consortium of leading air quality experts and organisations to develop the evidence to inform targets and provide this to the AQEG and COMEAP so that their advice can best inform the analysis undertaken. These organisations include Wood Plc, Ricardo EE, Imperial College London, the Centre for Ecology and Hydrology and Econometrics Research and Consulting.

out the progress made in implementing the steps identified in the environmental improvement plan and in achieving any targets set under clause 1 and 2 of the Bill.

29. Defra recognises that the total mass of particulates, of varying chemical composition and origin, requires action to be taken in relation to many sources of pollution. By way of example, whilst undoubtedly of significant benefit, it is unlikely that measures targeting traffic and domestic combustion alone will achieve the necessary reductions in $PM_{2.5}$ concentrations in areas such as London to meet the reduction targets. As the expert evidence heard during the course of the Inquest makes clear, spikes in pollution levels can be driven by factors beyond direct national control. In particular, transboundary pollution episodes of $PM_{2.5}$ in South East England and London often derive from continental Europe (and on occasions further afield) in consequence of wind and weather conditions (see, for example the episode evidenced on day 3 of the Inquest).

30. Defra also recognises that it is unrealistic to expect technology alone to provide solutions in the short term, and that the cost involved in achieving substantial reductions in air pollution will require society and businesses to accept significant changes to activities such as travel and heating. For example, to achieve concentration reductions close to the WHO guideline, we would need to consider implementing measures such as banning all domestic combustion of solid fuels and reducing the numbers of vehicles of all types in urban areas, requiring tougher standards for equipment and operations at construction sites. Commercial cooking and BBQs are also potent sources of particulate matter and might require controls.

31. This, in turn, will require further steps to be taken to inform the awareness of society and business of the adverse impact of air pollution, so as to render acceptable the impact of the changes that will need to be made. It is for this reason that, in committing to set ambitious targets, it is proposed that a full public consultation take place, supported by evidence about the adverse impact of air pollution, achievability, interventions required, costs and expected benefits to public health.

32. In the context of achievability and intervention required, the consultation process will also address the following technical considerations:
    a) A review of the present nationwide and transboundary sources of $PM_{2.5}$, and how they contribute to local pollution levels;
    b) Measures to be implemented to achieve progress/ a reduction in $PM_{2.5}$, and where additional/supplementary monitoring may be required in order to do so;

c) The extent to which technological innovations within a range of sectors, and behavioural changes may occur, or be encouraged, to reduce concentrations.

33. It is envisaged that the consultation will begin in early 2022 and the aim is for the Statutory Instruments setting targets to be laid by October 2022.

34. In setting new targets through the Environment Bill, there is also a commitment to significantly enhancing the monitoring network, with a view to capturing population wide exposure, as well as supplemental monitoring in order to enhance its ability to assess progress and evaluate the effectiveness of policy interventions. The work to design an expanded monitoring framework is to be undertaken alongside the ascertainment of targets set out above.

35. As part of this process, in 2018/19 Defra commissioned the Environment Agency to carry out a strategic review of the monitoring network, including external engagement with end users and experts. It has secured £1M for this year (2021/2022) and initiated an expansion of particulates monitoring networks. Defra has also funded research and development and practical pilot studies into the use of new low-cost sensor technology (£2m over the last two years). In order to identify suitable technical standards for measurement of accuracy and other performance parameters (which is currently a significant barrier for the use of low-cost sensor technology), Defra is working with the British Standards Institute and the National Physics Laboratory and intends to commission the development of a Publicly Available Specification in the Summer.

Concern 2 – Public Awareness of Sources of Information about Air Quality

36. The CGDs share the Coroner's concern that, whilst a range of information on air quality is made available to the public, and promoted through a range of programmes run by local government, national government and broadcasters, there is a need to: - (i) increase public awareness of the existence of this information, and (ii) further enhance how this information is presented, to make it as accessible and useful as possible.

37. The main current resource for air quality information is UK-AIR. Defra provides air quality information online, via its UK Air Information Resource website (UK-AIR), at http://uk-air.defra.gov.uk/. On UK-AIR, individuals can access:

a) Forecasts: Defra provides forecasts to give advanced warning of the expected levels of air pollution for the UK. Information is updated daily early in the morning and provides forecasts for today, tomorrow and the following 3 days.

UK Forecast maps can be searched by place name or postcode to give a more detailed local view. The 5-day forecast for a person's favourite location can be saved and presented above the maps.

b) Latest Pollution Summary: This shows current measured levels of air pollution and provides a retrospective view of pollution levels for 16 regions of the UK.

c) Information on how air quality is monitored and modelled in the UK, and where the monitoring sites are located. This includes an interactive map showing details of monitoring sites so users of the site can locate monitors of interest, for example sites near their home, and view data on pollution levels for these sites[11].

d) Around 80% of automatic data from air quality monitoring networks managed by the majority of local authorities: Users are able to access the local automatic data in the same way they can Defra's national data, for example using the data download service or looking at site locations on a network map. To facilitate locally managed data sharing with UK-AIR further, a dedicated API for this service has been established. This new service brings together national and local data sources, which have historically been managed and published separately, to one place, and enables interested parties (the public, researchers, industry and NGOs) to rapidly review locally managed monitoring.

38. Defra has recognised that the current size and complexity of the UK-AIR site makes information difficult to access. Defra has provided funds to the charity "Global Action Plan" (https://www.globalactionplan.org.uk/business-for-clean-air-taskforce) to help fund a Clean Air Hub website. This website brings together information on what air pollution is, how it affects health, what actions can be taken to protect individuals and others. It also contains downloadable resources and news stories on clean air issues. The charity is further responsible for the "Clean Air Day" air pollution campaign.

[11] The following additional information, principally of interest to experts, is provided:

i. Historical and near-real time data from the UK's national networks of air pollution monitoring sites can be downloaded from the UK-AIR data archive. Data from the oldest automatic monitoring sites go back to 1972, and there are data going back to 1961 from sites using simpler nonautomatic monitoring techniques. This resource enables users to explore and understand how air pollution has changed over time and current pollution levels their areas.

ii. The UK Air Quality Data Catalogue is a searchable catalogue of UK air quality monitoring, modelling and emissions datasets. For example, it identifies what data are available, who the responsible owner is and where to find the datasets.

iii. Information on science and research into air pollution. The UK-AIR library provides a comprehensive resource of the latest scientific and policy documents related to air pollution in the UK.

39. Local Authorities ("**LAs")** receive air quality information from Defra through a variety of means, and a range of communication materials have been developed for LAs to use in the implementation of their Clean Air Zone programmes and (alongside Public Health England). A 'directors of public health' toolkit, has also been developed[12] which provides a briefing and guidance to Directors of Public Health on how best to communicate matters relating to Air Quality. A number of Local Authorities also provide their own Air Quality messaging services to vulnerable groups (e.g. through SMS and email alerts e.g. AirAlert[13]).

40. Several national broadcasters provide Air Quality information. The BBC displays an assessment of air pollution alongside pollen and UV[14]. Apple provide Air Quality information as part of their weather app. In addition, Defra has been assisting ITV in considering what information it might provide as part of the ITV weather forecast and have held training sessions on Air Quality for ITV staff.

41. Defra's User Needs research[15] has highlighted that those searching for air quality information can often find it complex and difficult to interpret.The CDGs are committed to improving the provision of air quality data and information. In order to do this, the following actions are being taken forward:

    a) Defra is undertaking a fundamental review of the UK-AIR website to improve the functionality and user experience. This project will identify a structure for disseminating information on air quality that reflects the needs and preferences of the key user groups and stakeholders that use the site. This work will be based upon user needs research and will start with immediate effect, with the initial "discovery phase" completing early next year.

    b) A fundamental component of communicating information on UK-AIR is the Daily Air Quality Index (DAQI), which gives advice, based on the level of pollution that is being forecast and measured. Evidence about its development was provided at the inquest. Defra, Public Health England and DHSC are working with the chairs of the Air Quality Expert Group (AQEG) and the Committee on Medical Effects of Air Pollutants (COMEAP) to establish an expert group to steer the overhaul and update the DAQI in the light of accumulated new evidence and experience.

[12] https://laqm.defra.gov.uk/assets/63091defraairqualityguide9web.pdf
[13] https://airalert.info/Splash.aspx
[14] https://www.bbc.co.uk/weather/sw1p
[15] Defra, UK - Science Search

c) An updated DAQI could enable more specific messaging for different population groups and pollutant levels. This will assist health professions in advising patients when poor air quality is forecast. We will work with the health professions and media organisations, including weather forecasters to test the DAQI and how it can be most effectively communicated and consider the effectiveness of SMS alerts

d) This year, Defra is increasing the amount of Air Quality Grant funding available for Local Authorities to £8million. We will invite specific proposals to use a proportion of this funding to enhance local air quality information and awareness, encouraging local health networks to work collaboratively with Local Authorities to pilot more effective methods of public engagement.

e) Defra will continue to engage with broadcasters, local radio stations, social media companies, and other media outlets, to look at ways to improve communication on air quality. More broadly, the government will continue to work with a range of stakeholders and partners, including Global Action Plan, Asthma UK and the British Lung Foundation Partnership, or British Heart Foundation and weather forecasters to provide clear messages about the risks of air pollution and the actions people can take.

42. From a health perspective, NHS England and Improvement's (NHSEI) Children and Young People's (CYP) Transformation Programme is working to increase awareness by promoting a systematic approach to asthma management which includes a comprehensive education programme, identifying environmental triggers, promoting personalised care, effective preventative medicine and improved accuracy of diagnosis. This includes a National Bundle of Care ("The Bundle"), a set of National Standards with associated Integrated Care System deliverables. The Bundle is developed with clinical and patient experts, Royal Colleges, Professional Bodies and the third sector, to provide a framework for Local Systems to lead work on a range of improvements to support Children and Young People with asthma. Phase one of the Bundle will be published end June 2021, with Phase two published by April 2022.

43. The Bundle will set out evidence-based interventions to help children, young people, families and carers to control and reduce the risk of asthma attacks and to prevent avoidable harm. A bundle developed for this covers each of the following components based on the patient pathway:
    a) Environmental Impacts

b) Accurate and Early Diagnosis
c) Effective Preventative Medicine
d) Managing Exacerbations
e) Severe Asthma

44. The 2015 Directors of Public Health Air Quality toolkit is a project funded by Defra to encourage Directors of Public Health to become local champions for air quality improvement in their local areas. The toolkit contains information and material to help DPHs to, among other things, communicate the health impacts of air pollution to the general public and promote behavioural change in the community where necessary.[16]

Concern 3 – Communications to patients and their carers by medical and nursing professionals.

45. There is a degree of overlap between concerns 2 and 3. The dispersal of information regarding air pollution, and potential health impacts, including via the resources described above in response to concern 2 could be enhanced by the assistance of health care professionals, given the levels of trust the public have for these professionals.

46. The CGDs have noted with interest the recommendations in concern 3 made by the Coroner with respect to addressing awareness within the medical and other health care professions themselves of air pollution issues, at undergraduate, postgraduate and professional development levels.

47. There is clearly a link between such awareness raising, so as to improve communications to the patients and their carers, and the efforts of CGDs and local authorities to raise public awareness of the sources of information available. For this reason, Defra and DHSC are assisting the professional organisations to take forward activities to further engage their membership in understanding air pollution and communicating information to patients and the wider public.

48. By way of an example of the collaborative work being undertaken, the Chief Medical Officer for England, as part of the ongoing dialogue with the medical profession, recently hosted a roundtable on 1 June with the organisations and professional bodies referenced in relation to concern 3. This meeting focused on the on-going cross-organisation cooperation to agree concrete improvements in the way health care professionals communicate the adverse effects of air pollution on health with patients and their carers.

[16] http://randd.defra.gov.uk/Default.aspx?Module=More&Location=None&ProjectID=18580

49. Another example of the work being undertaken is a Defra funded pilot project, conducted by Global Action Plan and the UK Health Alliance on Climate Change, investigating whether and how respiratory physicians and paediatricians could be trained to better deliver air quality advice to their patients, and act as champions for air quality within their places of work. Defra are keen to build on this work and are planning further work with general practitioners providing air quality advice and information to a range of vulnerable groups.

50. The CGDs recognise the important role of the medical profession in raising awareness of the availability and relevance of the Air Quality Information available, and will continue to: -
    a) Make Defra, DHSC and PHE's expertise and experience in regard to air quality issues available to the relevant professional organisations, and allow them access to extensive domestic and international network of air quality academics and experts; and
    b) Assist, wherever possible, with the development and implementation of activities undertaken to engage the medical profession in communicating the adverse effects of air pollution.

Conclusion

51. The CGDs hope that the matters set out above address in sufficient detail the concerns raised in the Report. If, however, further information or clarification would be of assistance the CGDs will of course endeavour to provide the same.

Yours sincerely

for The Treasury Solicitor

Government Legal Department
On behalf of the Central Government Departments