Dear Colleague,

I have recently answered a number of letters and Parliamentary Questions on the conclusions of the Committee on Toxicity of Chemicals in Food, Consumer Products & the Environment’s (“the Committee”) position paper on aircraft cabin air quality. These conclusions are, by their nature, long and detailed – certainly longer than would be appropriate for inclusion in answers to Parliamentary Questions. I am pleased to set out here the Committee’s findings in full. For the avoidance of doubt, I am writing to you now as a recent recipient of correspondence or a parliamentary answer on this issue to clarify the position.

Below is a summary describing the advice and conclusions the Committee on Toxicity provided to the Department in its 2013 position paper on cabin air, after reviewing scientific information that was available, including the results of the four research studies\textsuperscript{15} the Department commissioned. The Committee has confirmed that the following is an accurate reflection of its findings.

1. The Committee concluded that there is evidence of the occurrence of contamination of cabin air by components and/or combustion products of engine oils. Peaks of higher exposure, lasting seconds, have been reported.

2. While many chemicals have been identified as being present in the bleed air from the aircraft engines, given the short duration of reported fume events, peak exposures of chemicals such as triaryl phosphates would have to occur at very much higher concentrations than was found during the studies to cause serious toxicity.

3. Episodes of acute illness have occurred in temporal relation to perceived episodes of contamination of cabin air. The sufferers of these illnesses have attributed the cause to the fume event.

4. The Committee noted that the range of symptoms reported following fume events was wide-ranging, whereas toxic effects of chemicals tend to be more specific.

5. While it is possible that the acute illness which occurred in relation to perceived episodes of contamination of cabin air might reflect a toxic effect of one or more chemicals, the Committee considered that a toxic mechanism as a cause for the reported illnesses was unlikely.

6. As a toxic mechanism was an unlikely cause for the reported illnesses, a nocebo effect was considered a plausible alternative. There is strong scientific evidence that nocebo effects can lead to illnesses that are in some cases severely disabling, from environmental exposures that are perceived as hazardous. However, there is no simple and reliable way of establishing that nocebo responses are responsible for individual cases of illness.

7. As neither a toxic mechanism nor a nocebo effect could be excluded beyond reasonable doubt as the source of symptoms reported, the Committee concluded more research would be beneficial. It stated, however, that when considering any new research project in conjunction to cabin air quality, it will be necessary to balance the likelihood that it will usefully inform further management of the problem against the costs of undertaking the research. The Committee suggested several lines of research, including database establishment, more monitoring of fume events and biomonitoring of cabin crew. Due to the unpredictability and rareness of the fume events, any new comprehensive research would incur severe costs without certainty of the procurement of any new meaningful evidence.

8. Finally, the Committee emphasised that an illness, whether caused by toxicity or a nocebo effect, can be severely disabling. Therefore, there is a continuing imperative to minimise the risk of the fume events which give rise to symptoms.
The points above are a summary of the full Committee on Toxicity position paper on cabin air, which can be accessed electronically at http://cot.food.gov.uk/sites/default/files/cot/cotpospapcabin.pdf

Due to the reasons outlined in paragraph 7 above, and due to the global nature of the aviation industry, it is the Government’s view that an international approach to any future research investigations would be most appropriate. The opportunity of collecting data from a broader sample base than what is possible in the UK alone would lead to more meaningful evidence being collated. These views were communicated to the European Aviation Safety Agency (EASA) in March 2014.

EASA has subsequently launched, in spring 2015, a preliminary in-flight cabin air measurement campaign, which will develop a methodology and put into place adequate equipment to perform cockpit and cabin air measurements. The results of this campaign are expected in autumn 2016 and will be used to prepare for a planned large scale project in the future. The Government will follow the progress of this work with interest.

I hope this summary is helpful in clarifying the Committee on Toxicity’s advice to Government. Copies of this letter will be placed in the libraries of both Houses.

Yours sincerely

ROBERT GOODWILL