Protecting and improving the nation's health

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Dear Sir Norman

Health Effects of 5G

Thank you for your letter of 25 July requesting an update on Public Health England’s (PHE’s) monitoring of the health effects of radiofrequency (RF) electromagnetic fields, or radio waves, from 5G communication technologies.

Our approach to monitoring includes carrying out research and performing evidence reviews to determine whether there are health effects; and review of measurements of non-ionising radiation from mobile phone base stations.

PHE’s main advice is that the guidelines from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) on limiting exposures to radio waves should be adopted, and that there is no convincing evidence that exposures below these guidelines result in adverse health effects for the general population. International standards are in place, based on the ICNIRP restrictions and published measurements made near to mobile phone base stations show that exposure of the public is well within the ICNIRP levels. ICNIRP guidelines apply up to 300 GHz, well beyond the maximum (few tens of GHz) frequencies under discussion for 5G. PHE advises it is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing telecommunications network or in a new area; however, the overall exposure is expected to remain low relative to guidelines and as such there should be no consequences for public health.

Research is continuing to investigate the possibility that adverse health effects could occur, and additional precautionary advice applies in the particular situation of exposure from mobile phone handsets, reflecting the potential for higher exposures than occur in other situations. This advice is made available on the PHE and NHS Choices websites. There is an index page at the following link: https://www.gov.uk/government/collections/electromagnetic-fields

We are committed to keeping the evidence under review and to updating our advice should it be necessary. PHE keeps up-to-date with the latest evidence in a number of ways, including by having its own specialist staff that carry out in-house and collaborative research. We also contribute to and learn from the work of other organisations that are active in reviewing the evidence and developing health-related guidance on this topic, including the World Health Organization (WHO) and International Commission on Non-Ionizing Radiation Protection (ICNIRP). PHE has a formal collaborating role in WHO’s international Electromagnetic field (EMF) Project.
The official guidance on health in relation to radio waves from mobile phone base stations (including 5G) can be accessed using the following link: 

I have also provided with this reply a RF Advice Summary document. These documents summarise PHE’s advice and the latest research on health effects and exposure to radio waves. They include links to evidence reviews that have been performed by independent expert groups at national and international levels.

The Advice Summary document explains that the reasons for maintaining the precautionary advice in relation to mobile phone handsets include the continuing possibility of: (a) biological effects, although not apparently harmful, occurring at exposure levels within the ICNIRP guidelines, and (b) the limited information regarding cancer effects in the long term.

I hope you have found this response helpful.

With best wishes

Yours sincerely

[Signature]

Duncan Selbie
Chief Executive

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