

INTRODUCTION

The evidence that climate change is happening, driven by human activities which increase atmospheric greenhouse gases, is overwhelming.(1) These changes, and action to mitigate them, will impact on human health, in particular respiratory health. Increased temperatures and disruption of ecosystems by climate change impacts directly on lung health but is also a cause of poverty, conflict and mass population displacement, increasing individuals' susceptibility to illness and reducing their ability to access healthcare. This represents a significant global injustice, as those who experience the worst consequences of climate change are in general both least responsible for it and least able to respond to it.

The importance of climate change to health has prompted several medical societies to develop specific policies and reports to address it.(2, 3) The British Thoracic Society produced its first detailed position statement on this topic in 2017, to mark the 60th anniversary of the UK Clean Air Act (<https://www.brit-thoracic.org.uk/document-library/audit-and-quality-improvement/environment-and-lung-health/the-environment-and-lung-health/>).

This Position Statement has been updated for 2019 to clearly set out the Society's position:

- that climate change is a major threat to human health;
- that the Society and its members can and should take forward a number of actions aimed at reducing climate change, or mitigate its effects.

ADVOCACY: THE LUNG HEALTH PERSPECTIVE

BTS welcomes the historic decision by the United Nations in December 2015 to adopt the Paris agreement on climate change, which pledges action to hold the increase in global temperature "to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C" (<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>). Much work will have to be done to achieve this ambitious goal and the health sector needs to be engaged and involved in efforts to attain it.

Many of the proposed mitigation and adaptation responses to climate change have the potential to promote health both at an individual level and a global level. Examples include pedestrianisation and traffic-

free routes, which, by promoting walking and cycling, will increase physical activity levels, reduce road traffic accidents and at the same time reduce proximity to emissions.(4) A particularly urgent matter is the health impact of particulate and NO₂ emissions from diesel engines. These make up a relatively high proportion of vehicles in the UK.

Action areas:-

- BTS and its members will highlight the links between climate change, air quality and health in policy documents and in interactions with policy stakeholders in healthcare and more broadly. Synergies between actions which both protect against climate change and improve human health, such as reducing exposure to indoor and outdoor pollution, will be highlighted in documents on the management and aetiology of respiratory conditions.
- BTS will press for active transport and clean air policies, as these reduce greenhouse gas emissions while improving respiratory health and overall fitness, reducing the current and future burden of disease.

SUSTAINABLE PRESCRIBING - HFC PROPELLANTS IN METERED DOSE INHALERS

The Montreal Protocol, introduced to protect the ozone layer, saw a planned phase-out of chlorofluorocarbon (CFC) propellants, replacing them with the hydrofluorocarbons (HFCs) now used in MDIs (Metered Dose Inhalers) (http://ozone.unep.org/new_site/en/montreal_protocol.php). Hydrofluorocarbons do not deplete the ozone layer, but they are powerful greenhouse gases, with an effect on climate change up to 3,800 more powerful than carbon dioxide. These propellants were estimated to be responsible for 8% of the NHS's entire carbon footprint in 2012. (6) No practical alternative to HFCs for MDIs has been found, but changing to dry powder inhalers (DPIs) is a viable option for many patients. DPIs have a carbon footprint 18 times lower than pressurised MDIs (pMDIs), and clinical studies have shown them to be equally effective and as cost-effective as pMDIs.(7-10)

Complete elimination of pMDIs may not be possible due to patient preference and the need to generate sufficient inspiratory flow to activate the DPIs. However, BTS encourages all prescribers and patients to consider switching pMDIs to DPIs whenever they are likely to be equally effective. When making a switch, clinicians need to ensure that patients learn and maintain the

correct technique. Changing devices can also be used as an opportunity to optimise the patient's therapy, and to simplify their inhaler technique by making all the patient's devices DPIs, which are inhaled in the same way.

Action areas :-

- BTS Guidelines, Quality Standards and Clinical Position Statements and advocacy will include issues of sustainability/carbon footprint relating to respiratory pharmaceuticals
- BTS will encourage recycling schemes for devices.

THE SOCIETY'S OWN ACTIVITIES

In order to support the implementation of the positions and actions outlined above and as a mark of its commitment to sustainability in its own activities, the Board of Trustees of the Society, supported by the Chief Executive, have undertaken to:-

- bear responsibility for monitoring and evaluating progress against commitments in this document and the accompanying Environment and Lung Health Action Plan.
- consider the carbon footprint of its investment portfolio. The Society currently has no investments in fossil fuel extraction industries and will not make any such in the future.
- ensure its own offices have efficient heating and lighting systems and consider environmental issues in its own commissioning and procurement.
- consider provision of video and other remote links for internal meetings to reduce travel as well as attempting to minimise and offset travel to meetings internationally.
- encourage members to read Thorax online, rather than in print version, to reduce waste.
- conduct a review of BTS activities and identify opportunities to promote sustainability, in addition to those listed here.
- support members in developing and adopting sustainable practice, e.g. using conference programmes/abstract categories, awards, education materials and training courses.
- measure and improve the environmental impact of BTS events.
- partner with the Centre for Sustainable Healthcare (CSH) to create a Sustainable Respiratory Care programme.

CONCLUSIONS

BTS recognises climate change as a huge threat to public health that will disproportionately affect patients with pre-existing lung disease. We note also the IPCC report published in October 2018 which argues that "Limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society". (11) Healthcare systems are not exempt from this and must transform to reduce their carbon footprint. Such transformation could have many potential co-benefits for respiratory patients, in particular by reducing air pollution and promoting more active, healthier lifestyles.

Healthcare professionals have a duty to protect and promote the health of patients and the public (12) and climate change currently represents the greatest global threat to public health. Sustainable use of precious environmental resources is therefore the responsibility of all healthcare professionals, delivering health benefits now as well as protecting the health of future generations. Professionals working in respiratory medicine have an important role in combating climate change and developing sustainable practices. We also care for patients who are particularly vulnerable to the effects of climate change. Responding to the threat of climate change will require innovation; leadership; and a broad perspective; but action is crucial if we are to protect the health of our patients now and in the future.

References

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