

Occupational and Environmental Medicine

Group leads: [Jon Ayres \(/staff/profiles/haps/OccupationalEnvironmentalMedicine/ayres-jon.aspx\)](/staff/profiles/haps/OccupationalEnvironmentalMedicine/ayres-jon.aspx) and [Steven Sadhra \(/staff/profiles/haps/OccupationalEnvironmentalMedicine/sadhra-steven.aspx\)](/staff/profiles/haps/OccupationalEnvironmentalMedicine/sadhra-steven.aspx)

Overview

Our main research activity is in occupational and environmental exposures and their effects on health, for example, air pollution and cardio-pulmonary disease, occupational exposures and lung disease. We also consider how disease can impact on work capability, and in how knowledge of the effects of work or the wider environment feed into policy development.

Our Research Group

The group is divided into two sub-groups: Work and health and environment and health.

The work and health group assess the interaction between exposures (mostly by the inhaled route) and the development and/or exacerbation of lung disease. Examples are the development of occupational asthma and occupational COPD and work factors which influence management of these conditions. This group also works on the effect of having lung disease on work capability (both COPD and asthma) and on factors governing the under-recognition of occupational asthma.

The Environment and Health group are mainly focussed on the effects of both indoor and outdoor air pollution on health integrating epidemiology with field studies which incorporate area and personal exposures and specific toxicology of particulates from certain sources. Their work covers both the developed and developing world, with studies in the latter area in Nepal and Malawi specifically on smoke exposure from biomass fuel burning in unventilated homes. They are also involved in studies around the health effects of pesticides and have a growing area of research in nano-materials and health.

Both groups also feed information and expertise into the development of policy through the HSE, HPA, DEFRA and DWP.

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Current Projects

- Investigation of the causes of occupational COPD using the UK Biobank data. Steven Sadhra, Hubert Lam and Jon Ayres in collaboration with Imperial College London (ICL) and the Health and Safety Laboratories (HSL)
- Under-recognition of occupational asthma in primary care. Gareth Walters and [Jon Ayres \(/staff/profiles/haps/OccupationalEnvironmentalMedicine/ayres-jon.aspx\)](/staff/profiles/haps/OccupationalEnvironmentalMedicine/ayres-jon.aspx).
- FABLE project: NERC/MRC funded study on pathways through which metallic environmental nanoparticles may affect health. Jon Ayres and Kevin Chipman PIs.
- The BLISS study: development of a 2000+ COPD cohort including work on the effect of COPD on work capability in those still working and those prematurely retired from work. Jon Ayres & [Steve Sadhra \(/staff/profiles/haps/OccupationalEnvironmentalMedicine/sadhra-steven.aspx\)](/staff/profiles/haps/OccupationalEnvironmentalMedicine/sadhra-steven.aspx).
- Wellcome Trust-funded study on long term fine particulate air pollution-related health effects using high resolution satellite data. Jon Ayres and Hubert Lam with the University of Hong Kong
- APPRENTICE study: using the ALSPAC birth cohort to assess the health impact of starting work in a teenage population. Jon Ayres & Hubert Lam with the University of Bristol.
- A feasibility study of "Work Plan" - a guided workbook intervention to support work-related goals among cancer survivors. Steven Sadhra CI on NIHR project lead Dr Elizabeth Grunfield (School of Psychology, University of Birmingham)
- Development and application of a new approach to inhalational occupational exposures. Steve Sadhra, Hubert Lam & Jon Ayres
- Cohort studies of cancer risks in electricity power station workers, oil refinery workers, carbon black production workers and rubber workers. [Tom Sorahan \(/staff/profiles/haps/OccupationalEnvironmentalMedicine/sorahan-tom.aspx\)](/staff/profiles/haps/OccupationalEnvironmentalMedicine/sorahan-tom.aspx).

Selected Publications

Karakatsani A, Analytis A, Perifanou D, Ayres JG, Harrison RM, Kotronarou N, Kavouras IG, Pekkanen J, Hämeri K, Brink ten H, de Hartog JJ, Hoek G, Katsouyanni K. Particulate matter air pollution and respiratory symptoms in individuals having either asthma or chronic obstructive pulmonary disease: a European multicentre panel study. *Env Health* 2012;**11**:25

Murray K, Lam KB, McLoughlin DC, Sadhra SS. Predictors of Return to Work in Cancer Survivors in the Royal Air Force. *J Occup Rehabil.* 2014 Jul 20. [Kurmi OP \(http://www.ncbi.nlm.nih.gov/pubmed?term=Kurmi%20OP%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Kurmi%20OP%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Devereux GS \(http://www.ncbi.nlm.nih.gov/pubmed?term=Devereux%20GS%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Devereux%20GS%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Smith WC \(http://www.ncbi.nlm.nih.gov/pubmed?term=Smith%20WC%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Smith%20WC%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Semple S \(http://www.ncbi.nlm.nih.gov/pubmed?term=Semple%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Semple%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Steiner MF \(http://www.ncbi.nlm.nih.gov/pubmed?term=Steiner%20MF%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Steiner%20MF%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Simkhada P \(http://www.ncbi.nlm.nih.gov/pubmed?term=Simkhada%20P%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Simkhada%20P%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Lam KB \(http://www.ncbi.nlm.nih.gov/pubmed?term=Lam%20KB%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Lam%20KB%5BAuthor%5D&cauthor=true&cauthor_uid=22556024), [Ayres JG \(http://www.ncbi.nlm.nih.gov/pubmed?term=Ayres%20JG%5BAuthor%5D&cauthor=true&cauthor_uid=22556024\)](http://www.ncbi.nlm.nih.gov/pubmed?term=Ayres%20JG%5BAuthor%5D&cauthor=true&cauthor_uid=22556024). Reduced lung function due to biomass smoke exposure in young adults in rural Nepal. *ERJ* 2013;**41**:25-30.

Sorahan T. Magnetic fields and brain tumour risks in UK electricity supply workers. *Occup Med* 2014;**64**:157-165.

Dick S, Doust E, Cowie H, Ayres JG, Turner S. Associations between environmental exposures and asthma control and exacerbations in young children – a systematic review. *BMJ Open* 2014 (In press)

Staff

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