

### P180 IMPACT OF THE LONDON LOW EMISSION ZONE ON CHILDREN'S RESPIRATORY HEALTH: A SEQUENTIAL YEARLY CROSS SECTIONAL STUDY 2008–2014

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**Background** Low Emission Zones are a novel public health intervention to address the adverse effects of traffic pollution on health. We investigated the association between traffic derived air pollutants and lung function in 8–9 year old children living in London's Low Emission Zone.

**Methods** Sequential yearly cross-sectional study of 2,297 children aged 8–9 years attending east London primary schools between 2009 and 2014, following the introduction of the Low Emission Zone. We examined the relationship between pollutant exposures (NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>) and lung function. We assigned annual exposures by each child's residential address. In addition, we used spatially resolved estimates of 12-hour, 24-hour, 7-day and annual exposures prior to each child's assessment, allowing us to compare the relative effects of very short-, short-, medium- and long-term pollutant exposures. Primary outcome measure was post-bronchodilator FEV<sub>1</sub>.

**Findings** We found inverse associations between exposures of PM<sub>10</sub> and PM<sub>2.5</sub> in the week prior to children's assessment and FEV<sub>1</sub> ( $P < 0.05$ ); and inverse associations between annual exposures of PM<sub>10</sub>, NO<sub>x</sub>, and NO<sub>2</sub>, and FVC ( $p < 0.05$ ); and exposures of PM<sub>10</sub> and PM<sub>2.5</sub> in the week prior to assessment, and FVC ( $p < 0.05$ ). No associations were seen when shorter term exposure estimates were employed. We found no evidence of improvements in lung function over the duration of the Low Emission Zone.

**Interpretation** Exposure of children to traffic pollution in central London is associated with decreased lung function and lung volumes. No detectable health benefit followed the introduction of the Low Emission Zone.

### P181 TRANSITION ARRANGEMENTS FOR YOUNG ADULTS WITH ASTHMA: UK NATIONAL SURVEY

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**Introduction** Transition of young adults (YA) from specialist paediatric to adult services is an active process that requires specific management and planning and does not merely represent the transfer of care as a single event. In other chronic diseases (e. g. Cystic Fibrosis; T1DM) it is well acknowledged that clinical outcomes improve when this process is well organised and where this is lacking the risk of non-adherence to treatment and loss of disease control increases. BTS guidelines<sup>1</sup> clearly recommend a coordinated approach when transitioning YA in an asthma setting. Despite the importance of this process, little information is available on transition arrangements in asthma services.

**Methods** An online survey was sent to 105 trusts with adult asthma services in all parts of the UK to establish their transition arrangements.

**Results** Of the 43 responding centres (District General Hospital  $n = 20$ ), only 60% had a designated lead ( $n = 26$ ) and less than half made any form of specific arrangements for transition ( $n = 18$ ). University Hospital trusts were more likely to have transitional care arrangements in place ( $n = 11/22$ ) than District General Hospitals ( $n = 6/20$ ). In those centres that did run joint clinics ( $n = 16$ ), in the majority of cases this only involved adult team members attending paediatric clinics ( $n = 10$ ).

Most centres ( $n = 25$ ) expected  $\leq 5$  patients to transition each year and over 90% ( $n = 37$ ) did not initiate contact with YA until they were  $\geq 15$  yrs old. Only a third of centres delayed transition if YA were not perceived to be ready ( $n = 15$ ) or remained in full time education ( $n = 15$ ).

Overall less than a third of respondents ( $n = 13$ ) were satisfied with their transition arrangements.

**Conclusions** Our survey reveals for the first time the wide variation in approaches to transition in asthma clinics across the UK. Our data suggests that currently most centres are not committing the recommended resources towards this process, no doubt hampered in part by the relatively small numbers of young adults with asthma transitioning each year.

### REFERENCE

- 1 British Thoracic Society. *BTS/SIGN Asthma guideline*. 2014. <https://www.brit-thoracic.org.uk/document-library/clinical-information/asthma/btssign-asthma-guideline-2014/> (accessed 28 June 2016).

### P182 CURRENT CHARACTERISTICS, COPING STRATEGIES AND OUTCOMES OF YOUNG PEOPLE WITH CYSTIC FIBROSIS TRANSITIONING TO ADULTHOOD

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**Introduction** Transition is a process that addresses the medical, psychosocial and vocational needs of young adults, and it is a crucial stage for patients with CF.

**Methods** Patients who transferred to the adult service via a transition clinic within the last 5 years underwent an interview with a psychologist using a questionnaire of demographic data, their experience of transition, their concerns and the effect of CF on their lifestyle. They completed the Hospital Anxiety Depression Scale (HADS) and the Ways of Coping Scale. Clinical data, complications and outcomes were noted at transfer and one year later.

**Results** 45 patients (27 men) participated; mean age at transfer was 17 (range 15–21) years and at interview was 20.7 (17–24) years; 25 (53%) had chronic *Pseudomonas* infection, 7 (15.5%) were receiving gastrostomy feeding, 9 had diabetes, one had had liver transplantation and one had undergone termination of pregnancy. At the transition clinic 94% attended with a parent but after transfer 33% attended alone and 18% with a partner; 87% felt that the timing of transition was correct and 80% found the transition clinic helpful. Self-reported adherence to treatment declined in 18% and improved in 24%. Life satisfaction was high with 74% reporting that CF had no effect on their social lives, but 52% felt it impacted on work or studies, although 76% were in employment or education. Mean FEV<sub>1</sub> remained stable at 76.6 (26.4–119.6)% at transfer and 75.4 (19–111)% one year later, but varied with 15 patients (33%) having a deterioration of  $>5\%$  and 8 (18%) improving by  $>5\%$ . Mean BMI changed from 20.8 (16.5–29.7) to 21.2 (17.3–29.2); 11 patients (24%)