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Mapping pediatric A&E respiratory presentations with air quality

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Introduction

West Belfast Partnership Board undertook a collaborative public health investigation to explore what if any correlation exists between air quality and children from the Falls Divis area presenting to RBHSC with a respiratory condition.

Background

An analysis of Emergency Department Attendances showed monthly trend in 2015/16 differed from previous years with a peak in November 2015 which was 27% higher than the number of attendances in November of 2014. The overall increase in 2015/16 across the 4 main paediatric categories was 10%. The increase for respiratory was 34% higher. West Belfast accounted for 32% (248n) of this spike.

There exists a compelling case for linkage between air quality and a range of conditions which is socially patterned. Falls and Divis area appears in the top 3 areas of multiple deprivation.

Approach

We identified periods of elevated paediatric presentation at A&E with repository compliant and mapped over air quality monitoring data from the same period in the Falls Divis area; Factoring potential incubation time between exposure to potential harmful air pollutants.

Conclusion

Based upon a review of air quality data no causal link was established between air quality and periods of elevated presentation of children at A&E with respiratory evident.

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