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### **Supplemental Material**

#### **Pediatric Psychiatric Emergency Department Utilization and Fine Particulate Matter: A Case-Crossover Study**

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#### **Table of Contents**

**Table S1.** ICD-10 codes from each case's primary diagnosis and their psychiatric category as derived using the Clinical Classification Software (CCS) and DSM-5 nosology. A board-certified child and adolescent psychiatrist (JRS) familiar with the institutional practices of ICD coding/documentation reviewed the excluded or altered codes based on both (1) current clinical practice and (2) current child and adolescent psychiatry diagnostic formulation. Some ICD-10 codes were not assigned to any category (e.g. alcohol-related disorders, cognitive disorders) because we did not believe that they represented an acute exacerbation that could have been possibly caused by an acute chemical insult.

**Table S2.** Inclusion criteria and number of cases meeting each criterion.

**Table S3.** Odds ratios and 95% confidence intervals from the case-crossover modeling for the risk of a psychiatric ED visit related to a  $10 \mu\text{g}/\text{m}^3$  increase in  $\text{PM}_{2.5}$  overall and by psychiatric ED visit categories. Results are presented using 30, 45, and 60 day fixed length periods to stratify and select control windows for each case window.

**Table S4.** P-values from a Chi-squared test used to determine if community deprivation significantly modified the association between  $\text{PM}_{2.5}$  and psychiatric ED visits by category. Separate associations for high and low community deprivation were estimated for outcomes only when there was significant modification ( $p < 0.05$ ) for at least one exposure lag. Lags represent lagged exposures in days.

**Table S5.** Odds ratios and 95% confidence intervals from the case-crossover modeling for the risk of a psychiatric ED visit related to a  $10 \mu\text{g}/\text{m}^3$  increase in  $\text{PM}_{2.5}$  stratified by community deprivation. Separate associations by high and low community deprivation were estimated for psychiatric ED visit categories that showed a significant effect modification ( $p < 0.05$ ) for at least one exposure lag, in accord with a pre-specified selection criterion.