

***Interactive comment on “Relationship between
particulate matter and childhood asthma – basis
of a future warning system for Central Phoenix”
by R. Dimitrova et al.***

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To check approximate linearity between the log odds and PM10 we discretized PM10 into four groups. Indicator variables were generated to code the four groups and the log odds was fit against these indicator variables. A linear relationship is not assumed when the indicator variables are used, so one check compare the fit of log odds without this assumption. The results are shown in Figure 5. Here one can see an approximate linear relationship between log odds and PM10 even though the indicator variables did not use this assumption. EPA documentation has mentioned this indicator variable method as a useful approach to check model adequacy.

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We agree with the comment that even effects within a day would be interesting. As you mentioned, our health data is only available to a resolution of one day (common for data of this type). The shorter-term effects would be an interesting study. Still, a forecast of PM10 even one day in advance can provide a beneficial warning for a majority of child asthma patients.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 28627, 2011.

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