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## Correspondence

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### TRICHLOROETHYLENE EXPOSURE AND CONGENITAL HEART DEFECTS

#### To the Editor:

Re: Yauck JS, Malloy ME, Blair K, Simpson PM, McCarver DG. Proximity of Residence to Trichloroethylene-Emitting Sites and Increased Risk of Offspring Congenital Heart Defects among Older Women. *Birth Defects Research (Part A)* 2004;70:808–814.

In their study on trichloroethylene (TCE) exposure and congenital heart defects (CHDs), Yauck et al. (2004) conclude, "... our observations add significantly to the overall body of literature that suggests TCE is a cardiac teratogen." This conclusion is too strong. The method of identifying exposure involved maternal address within 1.32 miles of a TCE-emitting site. The site could have emitted TCE via air or water at any time during the period 1996–1999 (pregnancies were for the period 1997–1999); neither the amount emitted by each site nor the weather conditions were factored into the analysis. Whether exposure occurred to the mothers during their pregnancies or even occurred at all cannot be determined. The likely inaccuracies in determining exposure status and the combining of all CHDs as though these outcomes were homogeneous make it unlikely that a causal association between TCE exposure and any CHD could be identified by this study, even if one existed. Yauck et al. (2004) may argue that the misclassifi-

cation errors they are likely to have made would only make the null hypothesis more difficult to disprove, adding strength to their findings; however, their study did not address a null hypothesis. Rather, the study used an a posteriori method of selecting the distance from the TCE site and maternal age that would yield the strongest apparent association. Conspicuously absent from the article is an evaluation of gradients of CHD risk by distance from a site and by maternal age, gradients that could be investigated with the authors' data even given the small number of affected individuals. The a posteriori determination of distance and age cutoffs is suitable for an exploratory exercise; the putative TCE interaction with maternal age reported by Yauck et al. (2004), however, is a hypothesis that requires further study.

#### REFERENCE

- Yauck JS, Malloy ME, Blair K, Simpson PM, McCarver DG. 2004. Proximity of residence to trichloroethylene-emitting sites and increased risk of offspring congenital heart defects among older women. *Birth Defects Res Part A Clin Mol Teratol* 70:808–814.

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