Supporting Information

Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water

Marc Edwards

418 Durham Hall, Civil and Environmental Engineering Department, Virginia Tech, Blacksburg, VA 24061

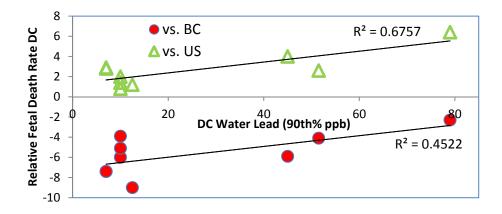
*Corresponding author phone: (540) 231-7236; Fax: (540) 231-7916; e-mail: edwardsm@vt.edu

October 29, 2013

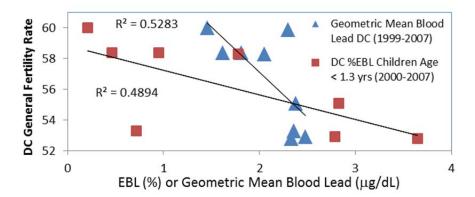
Four Figures and 1 Table presenting additional data on fetal death, birth rates, general fertility rates are included.

Supplemental Table 1. Calculation of Fetal Death Rates in DC 1997-2011. Reported fetal death rate data from National Vital Statistics (NVS) for 1997-2005 and the Washington DC Department of Health (DC DOH) 2003-2011. After reporting to NVS, DC DOH data is occasionally adjusted after the fact, producing some slight discrepancies between the two datasets. For the year of 2004 used in this research, there was a difference of 59 vs. 54 reported fetal deaths in the two datasets, and no difference in 2003 or 2005. For purposes of this research an average fetal death rate of 7.07 is used.

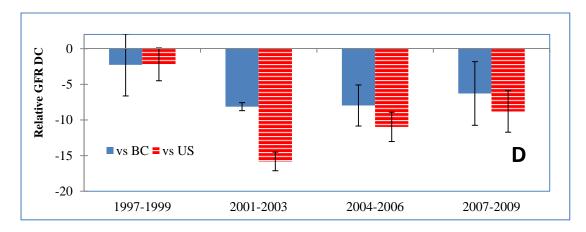
| | Fetal | | |
|------|----------|---------|--------------|
| | Death | | |
| | | Fatal | |
| | Rate DC | Fetal | |
| | DOH | Deaths | |
| | reported | Rate DC | Fetal Death |
| | to | DOH | Rate DC |
| Year | NVS | records | (in Table 1) |
| 1997 | 9.74 | | 9.74 |
| 1998 | 9.54 | | 9.54 |
| 1999 | 7.91 | | 7.91 |
| 2000 | 10.84 | | 10.84 |
| 2001 | 12.94 | | 12.94 |
| 2002 | 10.43 | | 10.43 |
| 2003 | 8.85 | 8.85 | 8.85 |
| 2004 | 7.38 | 6.76 | 7.07* |
| 2005 | 8.21 | 8.21 | 8.21 |
| 2006 | | 7.57 | 7.57 |
| 2007 | | 9.94 | 9.94 |
| 2008 | | 10.08 | 10.08 |
| 2009 | | 8.23 | 8.23 |
| 2010 | | 7.37 | 7.37 |
| 2011 | | 6.52 | 6.52 |



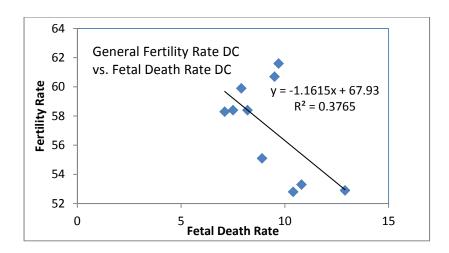
Supplemental Figure 1. Relative Fetal Death Rate (e.g., FDR DC- FDR BC) was correlated ($R^2 = 0.45-0.68$) to DC water lead data from 1997-2006 (transition year 2000 not plotted).



Supplemental Figure 2. General fertility rates in DC declined with higher geometric mean blood lead and higher incidence of lead poisoning (EBL) in children less than 1.3 years of age ($R^2 = 0.49-0.53$).



Supplemental Figure 3. Relative general fertility rates in DC versus those in BC or the US, show a trend similar to that calculated for birth rate in Figure 2C.



Supplemental Figure 4. As fetal death rates increased in Washington DC from 1997-2006, general fertility rates tended to decrease ($R^2 = 0.38$).