

Supporting Information

Relationship Between Total and Bioaccessible Lead on Children's Blood Lead Levels in Urban Residential Philadelphia Soils

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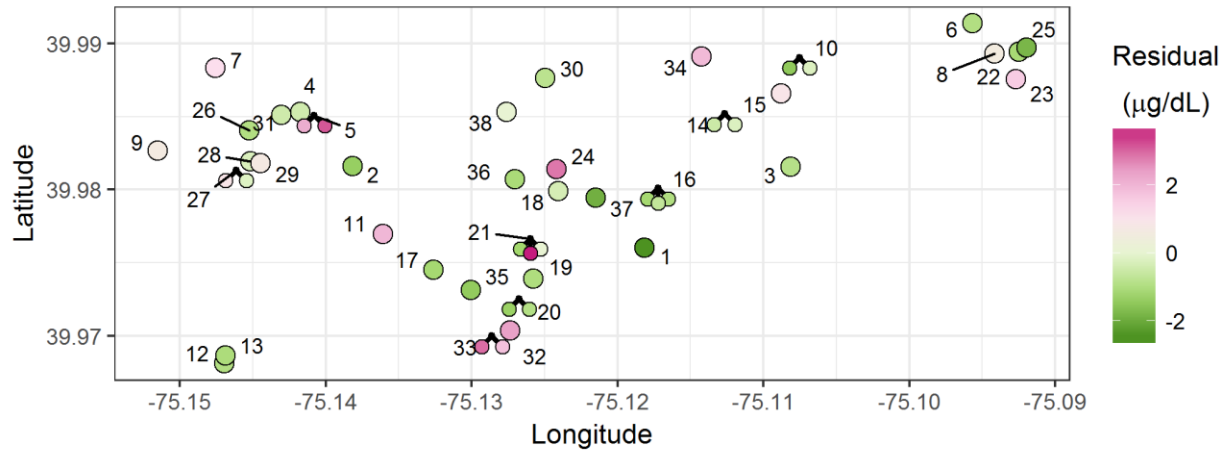
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Blood Collection Procedure:

- Apply a tourniquet to the upper arm. Select a vein for venipuncture. Placing the tourniquet as high up on the upper arm will help the vein become more evident.
- After a vein has been selected, remove the tourniquet and cleanse the antecubital space (inside bend of the elbow) of the forearm with an alcohol pad. Allow to air dry or pat dry with a sterile gauze pad. Place the tourniquet on the arm as before and locate the selected vein. Insert the butterfly needle and secure it in place with an adhesive bandage. If phlebotomy fails after two attempts, discontinue further attempts and record this on the form.
- Collect one EDTA purple top tube. Allow all tubes to fill to the stated volume on the tube. The EDTA purple top tube will fill to the black line on the paper label and should be mixed well after collection or placed in a tube rocker. Label each tube with a participant ID.
- After all tubes have filled to their stated capacity and the last tube has been removed from the needle holder, remove the needle in a swift motion and apply pressure with a gauze pad to the venipuncture site. Have the participant apply pressure over the gauze for approximately 5 minutes. Label each tube with the appropriate bar-coded label.
- After mixing well, label and place the EDTA tube in one of the storage boxes provided. Ensure tubes remain at 10–32 °C / 50–90 °F, and analyze them within 24 hours of collection. Do NOT store in a refrigerator.
- All excess blood collection materials (lancets, tubes, swabs, wipes, and gloves) will be collected in biohazard bags/bins and given to the Indonesia MOH for biohazard disposal.
- Quality Assurance:
 - Blood specimens with visible clots shall be rejected as unsatisfactory for analysis.
 - Venous specimens collected in EDTA tubes and are less than 50% of the recommended draw volume (i.e., < 1.5 mL in a 5 mL tube designed to collect 3 mL blood) shall be rejected as unsatisfactory for analysis.

(a)



(b)

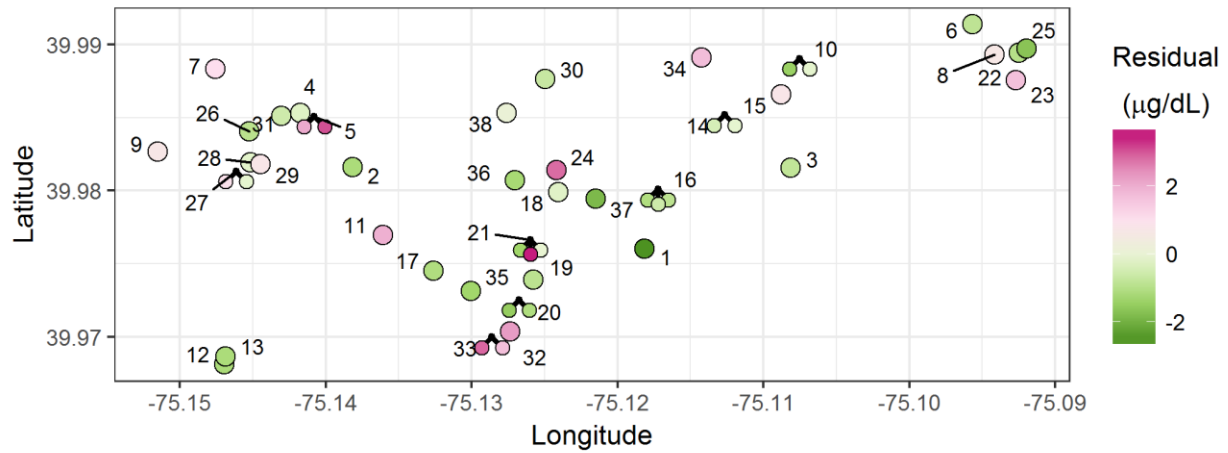
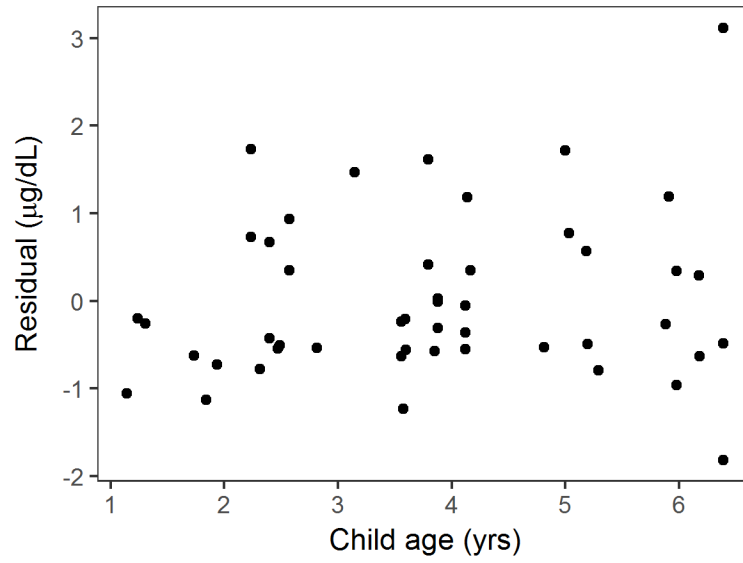


Figure S1: Geographic distribution of BLL model residuals (observed – predicted), represented by the color gradient, of a simple linear regression against (a) total lead or (b) bioaccessible soil lead. Labels indicate soil sample ID (Table 1), which correspond to houses. Houses with multiple children (hence multiple BLLs) are represented as black dots connected to colored dots representing each individual of that household.

(a)



(b)

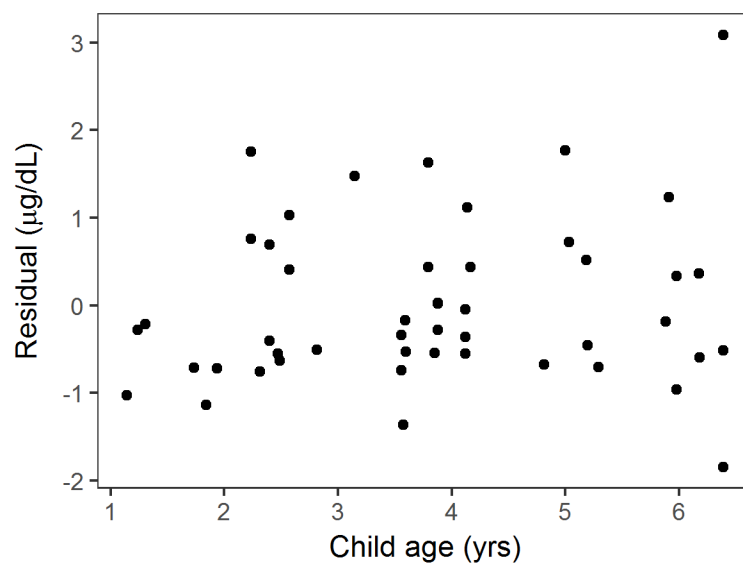


Figure S2: BLL residuals (observed – predicted) plotted against child age for the hierarchical blood lead level model with (a) total soil lead and (b) bioaccessible soil lead as the predictor.