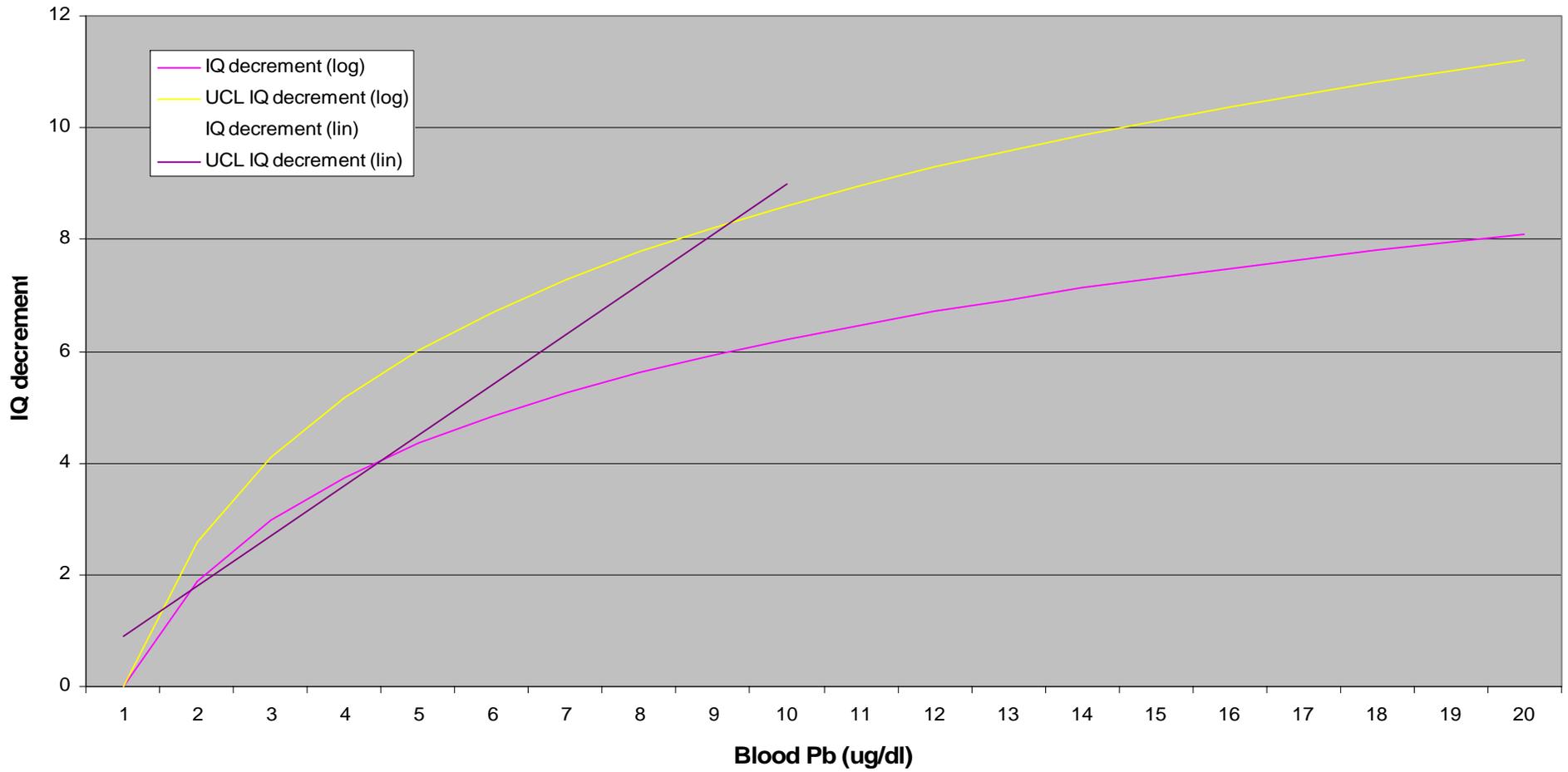


# OEHHA's proposed Pb Health Guidance Value (HGV)

- The proposed HGV for lead is an increase in the concentration of lead in the blood ( $\Delta\text{Pb}_B$ ) that is estimated to decrease I.Q. by up to 1 point.
- It is not an absolutely safe exposure level, since a clear no-effect level has not been established.
- It is based on epidemiologic data showing an inverse relationship between  $\text{Pb}_B$  and IQ at concentrations lower than previously reported.

**IQ Decrement versus Blood Pb**



## Basis for the $\Delta\text{Pb}_B$

- the linear estimate of IQ/ $\text{Pb}_B$  slope for all children in the study whose concurrent  $\text{Pb}_B$  was  $< 10 \mu\text{g/dl}$

# Basis for the $\Delta Pb_B$

- The benchmark response is 1 IQ point
  - at the limit of population detectability
- No uncertainty factors
  - sensitive indicators measured in sensitive children
  - no data deficiencies
  - no interspecies extrapolation

## Using the $\Delta\text{Pb}_B$

- The  $\Delta\text{Pb}_B$  is intended to be a *de minimus* increase in  $\text{Pb}_B$  resulting from exposure to lead at a school site.
- It cannot be used as a target blood  $\text{Pb}_B$  level from all sources and routes in the same way that the current CDC level of concern, since it is a change in blood lead level not a specific blood lead level.
- Surveys have shown that many children have blood Pb levels already exceeding  $1\mu\text{g}/\text{dl}$

# Using the $\Delta\text{Pb}_B$ (continued)

- The  $\Delta\text{Pb}_B$  is intended to apply to pre-school infants and children, to students through high school, and to school staff.
- Use LeadSpread, or other exposure model to calculate the concentration of Pb in soil or other environmental media that would result in a predicted increase in  $\text{Pb}_B$  of 1  $\mu\text{g}/\text{dl}$  for appropriate population percentiles.

# Summary

- The proposed HGV for lead is an increase in the concentration of lead in the blood ( $\Delta\text{Pb}_B$ ) that is estimated to decrease I.Q. by up to 1 point.
- It is not based on a NOAEL, since a clear NOAEL has not been established.
- It is based on the linear estimate of IQ/ $\text{Pb}_B$  slope for all children whose concurrent  $\text{Pb}_B$  was  $< 10 \mu\text{g}/\text{dl}$
- The benchmark response is a change of 1 IQ point, the limit of population detectability.
- Unlike the CDC level of concern, it is not a target  $\text{Pb}_B$ . Surveys have shown that many children have  $\text{Pb}_B$  levels already exceeding  $1 \mu\text{g}/\text{dl}$ .