

## Elevated blood lead levels in Karachi children

**Editor**—The recent review of environmental lead exposure (1) is timely for Karachi, where we have just completed a survey of blood lead levels in children. Our objectives were to compare current levels with those from a study done a decade ago and to assess the contribution of sources that may be amenable to intervention. The design entailed a geographically stratified urban sample of 400 children in the age range 3–5 years from randomly selected households, selecting the eldest child in the age range from each household. Laboratory determinations were made by the Pakistan Council for Scientific and Industrial Research, with quality control provided by the United States Centers for Disease Control and Prevention (CDC). While detailed statistical analyses are still under way, we wish to share the results regarding the actual levels found, in view of their public health importance.

Of the 400 children in the study, 322 (80.5%) had blood lead levels  $>10$   $\mu\text{g}/\text{dl}$ , 75 (18.8%) had levels  $>20$  to  $30$   $\mu\text{g}/\text{dl}$ , while 9 (2.3%) were found to have levels  $>30$   $\mu\text{g}/\text{dl}$ . The mean blood lead level was  $15.6$   $\mu\text{g}/\text{dl}$  in contrast to  $38.2$   $\mu\text{g}/\text{dl}$  (range  $21.3$ – $52.2$ ) previously reported from a study of children at two Karachi schools located in a high traffic density area of the city (2). Our study was designed to be more representative of young children.

These findings indicate that the majority of children in Karachi are likely to suffer some degree of intellectual damage as a result of environmental lead exposure, while some may suffer additional harm such as impairment of haeme synthesis and biochemical disturbances. While the levels are lower than previously reported, the high proportion of children with levels  $>10$   $\mu\text{g}/\text{dl}$  is cause for public health concern. The problem of lead in petrol has been recognized in Pakistan for several years, but action is needed. We will report our findings regarding other sources of elevated lead levels in due course. ■

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1. **Tong S, von Schirnding YE, Prapamontol T.** Environmental lead exposure: a public health problem of global dimensions. *Bulletin of the World Health Organization*, 2000, **78**: 1068–1077.
2. **Manser WWT et al.** Trace element studies on Karachi populations. Part V: Blood lead levels in normal healthy adults and grammar school children. *Journal of the Pakistan Medical Association*, 1990, **40**: 150–154.

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