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Alaska Mercury Biomonitoring

Corrected Version – July 30, 2003

Alaska Maternal Hair Biomonitoring Program

In July 2002, the Alaska Division of Public Health (DPH) began the Statewide Maternal Hair Mercury Biomonitoring Program, offering free and confidential hair mercury testing to all pregnant women in Alaska. The program was begun to determine the amount of mercury exposure actually occurring among pregnant women in Alaska. The purpose of this bulletin is twofold, to present the current results of this new biomonitoring program and to request the help of all health care providers in Alaska to encourage their patients to participate.

We have results from 125 samples from 19 Alaskan communities (Figure 1). **Hair mercury concentrations were very low in all samples tested.** The overall mean hair mercury concentration was 0.65 (parts per million, ppm) (mg/kg), and the maximum was 3.48 ppm, well below the World Health Organization (WHO) no observable effect level (NOEL) of 14 ppm (Figure 2).

ANTHC Maternal Cord Blood Study

The Alaska Native Tribal Health Consortium (ANTHC) is currently conducting a study determining, among other things, mercury exposure in mothers and infants from the Bethel and Barrow areas. For 52 mothers who delivered babies from the Bethel area, the median blood mercury level was 4.65 ppb and for 29 mothers from the Barrow area, the median was 1.1 ppb. Both of these median concentrations are well below the WHO NOEL of 56 ppb for blood.

Summary

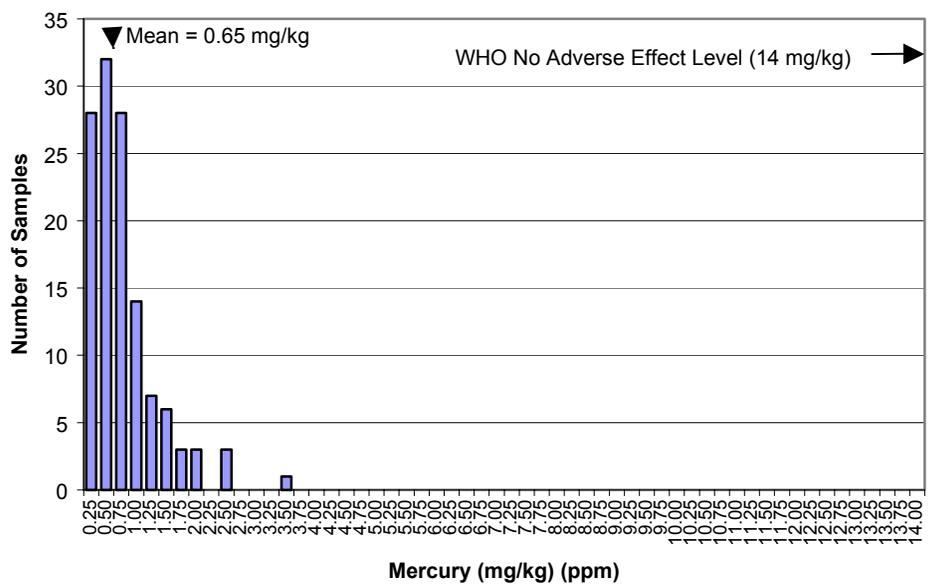
These hair and blood biomonitoring results provide strong evidence supporting the current State consensus dietary recommendations that all Alaskans, including pregnant women, women who are breast-feeding, women of childbearing age, and young children continue unrestricted consumption of fish from Alaskan waters. (Epi *Bulletin* No. 6, June 15, 2001).

While these initial results are very encouraging, we seek additional samples, especially from rural areas in the state, to monitor mercury exposures throughout Alaska and ensure optimal Alaska dietary recommendations. We urge all Alaska health care providers to support participation of their patients in this biomonitoring program, ask them to inform their pregnant patients about this important program, and to encourage their patient's participation. Our goal is to offer routine testing to all pregnant women in Alaska on an ongoing basis.

Figure 1. Locations of Persons Tested



Figure 2. Hair Mercury Concentrations (N = 125)



To participate in the Statewide Maternal Hair Mercury Biomonitoring Program and for information on how to collect and submit hair samples, contact the Section of Epidemiology, Environmental Public Health Program 907-269-8000. Additional information can be found in *Epidemiology Bulletins* No. 6 (June 15, 2001) and No. 11 (June 4, 2002) available at <http://www.akepi.org>.

(Thanks to Dr. Jim Berner, MD, MPH for providing these results from the ANTHC study.)