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Alaska Mercury Biomonitoring – Update

July 2002 – December 31, 2004

Alaska Maternal Hair Biomonitoring Program

In July 2002, the Alaska Division of Public Health (ADPH) 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 program also supports targeted testing of all women of childbearing age aged 15 to 45 years. The purpose of this bulletin is twofold, to present the results of this biomonitoring program and to request that health care providers in Alaska encourage their patients to participate.

Results

Through December 31, 2004, the ADPH analyzed hair samples from 178 pregnant women and 71 women of childbearing age who lived in 40 Alaskan communities (Figure 1). The median and mean age of the pregnant women was 28 years (range = 15-47 years). The median and mean hair mercury levels among pregnant women were 0.47 mg/kg and 0.71 mg/kg, respectively (range = 0.02-6.35 mg/kg) (Figure 2). The median and mean ages of women of childbearing age were 32 and 31 years, respectively (range = 16-45 years). The median and mean hair mercury levels among women of childbearing age were 0.63 mg/kg and 1.04 mg/kg, respectively (range = 0.08-7.82 mg/kg). Overall, 79% of all women had levels of hair mercury below 1 mg/kg, 92% had levels below 2 mg/kg, and 83% had levels below 1.2 mg/kg, the level that corresponds with the EPA's reference dose (Figure 2).

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. (Epidemiology *Bulletin* No. 6, June 15, 2001).

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 encourage their patients to participate in this biomonitoring program.

Figure 1. Locations of Persons Tested

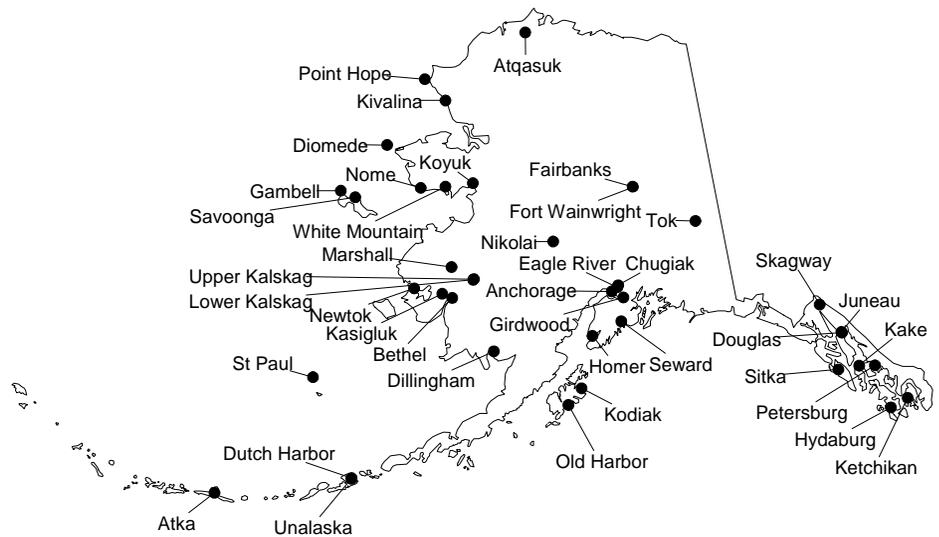
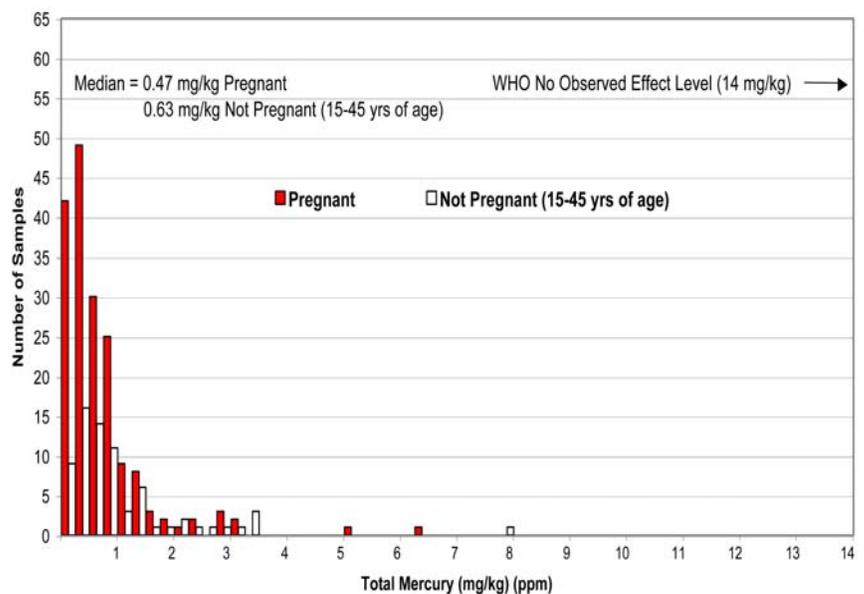


Figure 2. Hair Mercury Concentrations

Alaska Hair Mercury Biomonitoring Project (June 2002 - December 2004)
Hair Total Mercury Concentration: Pregnant Women (n=178) and Not Pregnant Women of Childbearing Age (15-45 years of age) (n=71)



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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.epi.Alaska.gov>