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Update on the Hanford Thyroid Disease Study Draft Final Report

On January 28, 1999, the Centers for Disease Control and Prevention (CDC) released the Draft Final Report and Draft Summary Results Booklet from the Hanford Thyroid Disease Study (HTDS). This nine-year study, conducted by the Fred Hutchinson Cancer Research Center in Seattle, WA and funded by the CDC, evaluated whether thyroid disease was related to varying levels of estimated radiation dose in a group of 3,441 people who were exposed as children, during the 1940s and 1950s, to radioactive iodine (I-131) from the Hanford Nuclear Site. This study was not intended to address health effects of exposures to other radionuclides released from the Hanford Facility because radioactive iodine had been identified as the major Hanford source of radiation exposures to surrounding communities.

It is important to note that CDC released the Draft Final Report and the Draft Summary Results Booklet to provide both the public and the scientific community the opportunity to review the Report in its earliest stage of release. This was done before final peer review and before CDC or others made any revisions. The public and scientific review process is a key step for CDC in developing interpretations of the study findings.

CDC's commitment to conduct the study in complete openness, together with the intense interest about the study results on the part of the affected citizens, led us to release the Draft Final Report at this stage. The same public process has been used to release CDC reports at other nuclear weapon production sites.

STUDY RESULTS AND INTERPRETATION

The initial study results provided in the Draft Final Report do not show a link between the estimated dose to the thyroid from I-131 and the amount of thyroid disease in the HTDS study population. While thyroid diseases were observed among the HTDS participants, those who had higher estimated radiation doses appeared to be no more likely to have thyroid diseases than those who had lower doses.

Although no link between estimated I-131 radiation dose and the amount of thyroid disease was identified within the HTDS study population, the study results do not prove that a link does not exist. In addition, these results do not mean that people living in the Hanford area during the 1940s and 1950s were not exposed to I-131 and other radionuclides. There may be individuals in the overall population who were exposed to Hanford radiation and did develop thyroid disease because of their exposure. However, it is not possible in an epidemiological study to determine whether an *individual* person's thyroid disease is or is not caused by Hanford radiation exposure.

The CDC has been and remains fully committed to a thorough peer review process to evaluate any scientific issues that may be raised, including an accurate characterization and interpretation of the study and its limitations. Many scientists and members of the public will legitimately remain concerned about the interpretation of any single epidemiologic study. The CDC remains committed to further assistance at Hanford, including support of the revised Agency for Toxic Substances and Disease Registry (ATSDR) Hanford Medical Monitoring Program, additional epidemiologic evaluations as appropriate, investigations to increase understanding of radioactive iodine exposures and the development of thyroid disease, support of public education programs, and additional programs as needed.

The complete text of the HTDS Draft Final Report and summary public information materials are available on the internet at:

www.fhcrc.org/science/phs/htds and at www.cdc.gov/nceh/programs/radiation

FUTURE COMMUNICATION EFFORTS

CDC is planning a series of public meetings, and other communication activities and mailings to engage communities affected by Hanford about the preliminary results reported in the HTDS Draft Final Report and about any updates in the review of this Draft Report. The public will be notified of the date and time of these meetings through newspaper advertisements and media announcements. Individuals who wish to be included on the mailing list for these meetings and mailings may call CDC (770-488-7040) or write to CDC (see the address under Call for Comments).

SCIENTIFIC AND PUBLIC REVIEW PROCESS

The protocol, pilot study report and analysis plan for the HTDS have all had extensive public and scientific review. CDC routinely provides draft reports of radiation studies for the public and for scientific review at the same time. CDC has submitted the HTDS Draft Final Report to the National Academy of Sciences for scientific review and currently is receiving public comments. We anticipate that changes in the HTDS Draft Final Report will be needed as a result of this scientific review and the public comments received.

In fact, a number of issues that need to be addressed have already been identified. For example, as discussed in the HTDS public meeting in January, an error has been identified in the Hanford Environmental Dose Reconstruction (HEDR) Project for estimates of the amount of I-131 released from Hanford for the time period August 1951 through December 1957. This will affect the individual dose estimates of some participants in the HTDS, however, given that the time period involved occurred after the major Hanford releases, we do not anticipate that this will have a major impact on the study's findings. CDC is currently evaluating the impact of this error, and all HTDS doses will be recalculated before the HTDS Final Report is prepared.

In addition, a statistical analysis will be completed to evaluate the effect of uncertainty in the estimated doses on the study results. (Scientific uncertainty describes the lack of precise knowledge about an estimate based on the amount and quality of available evidence or data.) The results of this analysis will be incorporated into the HTDS Final Report.

CDC will also conduct further analysis of the mortality data to help clarify the patterns of excess mortality that are reported in the HTDS Draft Final Report. While conducting the HTDS, researchers found that the death rates in the study population were slightly higher than predicted, based on death rates in the state of Washington for the same period, particularly for causes related to congenital anomalies and conditions occurring late in pregnancy or within the first seven days after birth. The reasons for this apparent elevated rate in overall mortality are currently not known. However, a study of infant and fetal deaths in eight Washington counties during the years 1940-52 is currently being conducted by the ATSDR with the results expected by late spring.

CALL FOR COMMENTS

The complete text of the HTDS Draft Final Report and summary public information materials are available on the web at: www.fhcr.org/science/phs/htds and at www.cdc.gov/nceh/programs/radiation. Individuals who would like to provide written comments on the Hanford Thyroid Disease Study Draft Final Report are encouraged to do so. Please send comments to: Centers for Disease Control and Prevention; Radiation Studies Branch (attn: HTDS); MS-F-35; 4770 Buford Highway; Atlanta, GA 30341. CDC would like to receive all comments by July 1, 1999. CDC plans to post all review comments on its web site (www.cdc.gov/nceh/programs/radiation) as soon as possible after they are received. Specific questions and/or requests for more information will be handled on an individual basis by either telephone (770-488-7040) or written response. All comments will be given consideration in preparation of the final report.