

Outreach by the Hanford Tribal Service Program to Indian Communities around the Hanford Nuclear Reservation

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BACKGROUND. The Hanford Tribal Service Program offers technical assistance and health education to American Indian tribes in an area reported to be affected by radiation from the Hanford Nuclear Reservation, which was developed and operated by the United States federal government. This article describes strategies used to reach out to communities to tell them about Hanford's history and the potential health effects of radioactive materials emitted from Hanford. Two health effects of concern are thyroid disease and cancer. Based in Portland, Oregon, the Hanford program is administered by the Northwest Portland Area Indian Health Board, a tribal organization serving 39 federally recognized tribes in Idaho, Oregon, and Washington on health issues.

METHODS. This article describes outreach strategies used by the health educator. They include informational resource kits, community visits, postage-paid response cards, and a toll-free telephone line. The staff made presentations to tribal councils and then reached out to health care providers and general community members, with special attention given to elders.

DISCUSSION. The staff faced obstacles in delivering the message about Hanford's history and the potential health effects of the radioactive emissions from Hanford. One such obstacle is the uncertain and controversial nature linking Hanford and health effects due to its releases of radioactive materials. Another is that Hanford concerns represent only one of many issues vying for communities' attention. However, communities welcomed the efforts of the Hanford Tribal Service Program. After decades of secrecy, people wanted to know what happened at Hanford and how its operations might have affected their health. *Cancer* 1996; 78:1607-11. © 1996 American Cancer Society.

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The Hanford Tribal Service Program of the Northwest Portland Area Indian Health Board (NPAIHB) serves American Indian tribes located within an area being studied as an air pathway of radioactive materials from the Hanford Nuclear Reservation.¹ The program offers technical assistance and health education about potential health effects from Hanford radiation. This article describes outreach strategies for health education. Background information is presented, followed by a description of outreach strategies.

BACKGROUND

The Hanford Tribal Service Program offers technical assistance and health education to nine federally recognized tribes reported to be affected by Hanford radiation: Coeur d'Alene, Colville, Kalispel,

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Kootenai, Nez Perce, Spokane, Umatilla, Warm Springs, and Yakama. The program's health educator reaches out to these communities and relays information about Hanford history and potential health effects of Hanford radiation. Technical assistance is provided in the areas of health assessment, data analysis, and computing. Recognizing the controversy surrounding Hanford and its operations, staff strive to present objective information about Hanford.

Program Overview

The tribal advisory board developed the Hanford Tribal Service Program, which serves as the Indian component of the Hanford Health Information Network (HHIN). The tribal advisory board, which meets quarterly to oversee program activities, is composed of one representative from each participating tribe. HHIN's overall effort is to educate citizens about the possible health effects of radioactive materials released from the Hanford Nuclear Reservation located near Richland, Washington.

The Centers for Disease Control and Prevention granted funds to the Washington State Department of Health to manage HHIN. In addition to the tribes, HHIN collaborators include departments of health in Idaho, Oregon, and Washington. Subcontracting with Washington State, NPAIHB administers the tribal program.

Established in 1972, NPAIHB is a tribal organization that works to improve health care delivery for 39 federally recognized tribes in Idaho, Oregon, and Washington. NPAIHB delegates meet on a quarterly basis to advocate on behalf of Northwest tribes on health-related matters. The Hanford program is one of NPAIHB's five projects, all of regional interest to tribes. The Hanford program began in 1993, 50 years after the Hanford Nuclear Reservation was founded.

Hanford History

In 1943, the United States federal government selected a 640-square-mile area in southeast Washington on which to build the Hanford Nuclear Reservation, now known as the Hanford Site. In 1944, Hanford began producing plutonium necessary for the atomic bomb.² During production, radioactive materials were emitted into the Columbia River and the atmosphere.³ Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project (HEDR) estimates that the affected area extends from Hanford into parts of Washington, Oregon, and Idaho.¹ (For more information about the Hanford Environmental Dose Reconstruction Project, call 1-800-545-5581.)

According to HHIN, "For more than 40 years [starting in 1944], Hanford released radioactive materials into the air, water, and soil. Most of the public

and some Hanford workers, however, did not know about these releases until 1986. . . . Most of Hanford's air releases came from the chemical process used to separate plutonium and uranium from fuel rods."⁴ More than 700,000 curies of Iodine-131 alone were released into the atmosphere. More than two million curies of Arsenic-76 were released into the Columbia River. A curie is a unit of radioactivity, 37 billion atoms undergoing radioactive decay each second.

The Hanford Tribal Service Program does not conduct scientific studies, rather it informs communities about Hanford research. Two current studies involve investigation of the impact of radioactive materials released from Hanford.⁵ Authorized by Congress in 1988, the Hanford Thyroid Disease Study is determining whether thyroid diseases increased among persons exposed to the releases of radioactive iodine from Hanford between 1944 and 1957. Results most likely will be published by late 1998. (For more information about the Hanford Thyroid Disease Study, call 1-800-638-4837.) In 1987, HEDR began making estimates of the radiation doses persons may have received from the release of radioactive material from Hanford from 1944 to 1992. According to HEDR, "Iodine-131 was the dominant radioactive material contributing to dose during all of the 1940s and 1950s . . . Radiation doses from releases to the Columbia River were highest in the years 1956 to 1965. The peak year was 1960."⁶

Risk Factors and Potential Health Effects

Many individuals believe Hanford radiation has caused negative health effects. HHIN states, "It is very difficult for scientists to 'prove' the cause of any disease—even when the best of data are available. This is particularly true for cancers, which can be induced by many environmental and lifestyle factors. It is hoped that health studies will provide additional information about the likelihood that certain illnesses occur at higher-than-expected rates among people exposed to radiation from Hanford."⁷

Factors of importance in determining health effects caused by Hanford include the following.

- Characteristics of radiation emissions (examples: type, duration, and frequency; and pathway—contaminated water, air, and food—along with weather patterns determining the path of radioactive materials).
- Personal biologic characteristics (examples: sex, age, and genetic factors).
- Personal life style characteristics (examples: place and length of residence in pathway of radioactive materials as well as ingestion of contaminated materials, especially milk).

TABLE 1
Health Education Outreach Strategies

Item	Resource kit	Community visits	Response card	Toll-free line
Description	Booklet developed by program staff, materials developed by Resource Center and other Hanford programs	Presentations and exhibits	5 1/2 × 8 card stock, folded once, perforated, space for address, tear-off portion preaddressed for return with business reply postage paid	Set up in program office
For whom	Elders, tribal council members, health care providers, general community members, card respondents, students	Elders, tribal councils, general community members, schools	Resource kit recipients, participants at meetings of elders, staff, tribal councils, etc.	Available to any interested community member
Where used	Presentations at elders' meal sites, in classrooms and other community sites, by mail	Elders' meal sites, schools, community centers	Presentations	Accessible from anywhere throughout the United States
Purpose	Provide information about Hanford and tribal program	Give information about Hanford and the tribal program	Offer method for community to request additional information about program and Hanford	Extend information and support to anyone with concerns about Hanford and its potential health effects
Availability	In person and by mail	In response to tribal program's staff request and on request of tribal communities	At meetings and in resource kit	During regular business hours

Because radioactive iodine reportedly was released into the atmosphere in the greatest quantity and affects the thyroid, thyroid disease is of particular interest. Because radiation is a known carcinogen, cancer is also a concern. Although researchers and people who lived downwind from Hanford during its emissions offer many hypotheses about health effects from Hanford radiation, many questions remain.

OUTREACH STRATEGIES

Given this uncertainty, Hanford Tribal Service Program staff reached out in many ways to inform Indian communities about Hanford (or Hanford's history) about potential health effects of radiation from Hanford, as reported in current scientific publications. Outreach strategies have included: (1) distributing resource kits, (2) making community visits, (3) facilitating dissemination of information with the use of a postage-paid response card, and (4) making available a toll-free telephone line (Table 1).

Resource Kits

First, program staff developed a resource kit (Table 2). A booklet written by staff entitled, "Hanford Radiation: Impact on Indian Nations," gives a historical perspective on Hanford and its significance for tribal commu-

nities around Hanford. The resource kit also includes materials published by HEDR, Hanford Thyroid Disease Study, and HHIN's Resource Center. The center is an independent, project-wide organization responsible for developing materials and serving people who have moved beyond the three-state area.

Staff distributed the kit at presentations for tribal councils, health care providers, and general community members. Staff also mailed out kits available in response to postage-paid cards noted below.

Community Visits

During the first fiscal year, the health educator made at least two visits to each of the nine communities. This included presentations at elders' meal sites, schools, and community meetings such as general councils. The health educator chose first to reach elders at their meal sites following their noon meal. It was a natural gathering place, and elders have first-hand experience with that time in Hanford's history. Elders consistently conveyed their appreciation for the information. In collaboration with tribal staff, the health educator also held evening meetings in some communities for other community members.

The program's health educator also made informational presentations to seventh- and eighth-grade

TABLE 2
Resource Kit Materials

Format	Title	Description
Brochure	Northwest Portland Area Indian Health Board	Describes structure and purpose of NPAIHB and its programs
Booklet	Hanford Radiation: Impact on Indian Nations	Includes three original articles and three items developed by the Resource Center
Brochure	Radioactivity in the Body	Describes how radiation exposure occurs and what the body does with radioactivity, by HHIN
Brochure	Radiation Health Effects: An Overview	Describes the release of radioactive materials from the Hanford Site and potential health effects, by HHIN
Brochure	Dose Reconstruction Project Findings Will Benefit Health Effects Research	Describes the HEDR and how the results of this project will be used in the Hanford Thyroid Disease Study, by HEDR
Brochure	Questions & Answers about the Study	Describes the purpose of the HTDS, who is included in the study, and when study results are expected, by HTDS
Response card	Are You Concerned About Hanford Radiation?	Tear-off portion with postage paid by program for respondents to request information

NPAIHB: Northwest Portland Area Indian Health Board; HHIN: Hanford Health Information Network; HEDR: Hanford Environmental Dose Reconstruction Project; HTDS: Hanford Thyroid Disease Study.

students, on the recommendation of the tribal advisory board. Students demonstrated a strong interest in the topic and asked many questions about Hanford's affect on their health and that of their grandparents and parents.

Postage-Paid Response Cards

Postage-paid response cards drew a favorable reply. Staff made these cards available at presentations and included them in the resource kits themselves. The card gave readers another opportunity to request information. The card measures 5 1/2 × 8 inches on white card stock, folded once on a perforated line.

Half of the card looks like a typical postcard with a return address and space for an address label on one side. On the flip side of this half was a brief description of the program and information about how to obtain more information, including the toll-free telephone number.

On the other side of the perforated line is the business reply section, indicating that postage will be paid by the program when the respondent mails the postcard. The flip side of this half has check-off boxes for indicating the type(s) of information requested, along with space for writing in the respondent's address.

Toll-Free Telephone Line

The purpose of the toll-free line is strictly to make information available on an individual basis. Staff offer a listening ear and respond to requests for Han-

ford materials. As a method of quality assurance, staff track calls using a form developed by the HHIN Resource Center. These confidential records are kept under lock and key. Staff never give any medical or legal advice.

The program makes the toll-free line available for tribal communities around Hanford. However, staff welcome callers whether Indian or non-Indian from anywhere throughout the United States. Many people who lived in the area reported to be affected by Hanford radiation now live in other areas of the United States. Non-Indians related to Indian people who may have been affected by radiation from Hanford call with their concerns.

DISCUSSION

Current information about the potential health effects of radiation from Hanford must be conveyed tentatively. This occurs in dialog with the community. Community concerns warrant acknowledging questions and hypotheses offered by community members who lived downwind or downriver from the radioactive releases.

Some obstacles stood in the way of implementing outreach strategies. One challenge is the controversial and uncertain nature of linking health effects to radiation from Hanford. Scientists have conducted many studies on one exposure of high-level radiation from nuclear bombs. Much less research has been conducted on long-term, low-level radiation like that from

Hanford. Consequently, program staff stress the limited applicability in comparing these studies with the situation at Hanford.

Another challenge is that tribes are addressing myriad health concerns, with Hanford being only one of them vying for attention. Tribes have devoted resources to answering questions raised by Hanford. The level of concern of the community members often varies according to the amount of information made available to them along with the amount of time they have to investigate these issues.

Despite obstacles, communities welcome NPAIHB's Hanford program efforts to offer information. After decades of secrecy, people want to know what happened at Hanford and how Hanford operations might have affected the health of individuals and communities.

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