

A Study of

Former Fernald Workers

In a recently completed study, we found an increase in certain types of cancer among workers from the Fernald Feed Materials Production Center (Fernald). If you worked at the worksite anytime from 1951 to 1985, and you are concerned about your health, please share this information with your doctor.

Study background

In 2013, the National Institute for Occupational Safety and Health (NIOSH) published a study that explored the health effects of working at Fernald. NIOSH is a government research agency within the Centers for Disease Control and Prevention (CDC). We conduct research to improve job safety and health. Our studies are completed with input from employer and employee representatives, but the research is conducted independently.

Many Fernald employees worked with radioactive materials and other hazards, such as acid mists and chemicals. Some studies have found that uranium exposure may increase the risk of cancer, but the risk depends on how much a worker was exposed. Working with uranium at Fernald would have exposed workers to mostly low levels of radiation.

Earlier studies of Fernald workers found some health concerns. Our study expanded on these studies by including both men and women of all races. We included all 6,409 men and women who worked at Fernald for at least 30 days from 1951 to 1985. During this time, Fernald produced uranium products for use in Department of Energy Defense Programs and was operated by National Lead of Ohio (NLO). We used only records to complete the study. No surveys or blood samples were collected, so you may not have known this study was being done.

We did this study to see if:

1. Deaths from cancer or other causes were higher among Fernald workers compared with the general population
2. Deaths from certain causes could be linked to worksite radiation exposures



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More about exposure

Radiation exposures were likely throughout the facility. Employees might have been exposed by working near a radioactive source or through internal exposure. Internal exposure can occur by breathing in, swallowing, or absorbing uranium dust through the skin. At low doses there are no symptoms of exposure, so you might not have known you were being exposed.

We used plant records to assess worker exposures to radiation and other hazards. External radiation exposure was monitored at Fernald using personal dosimeters; this included film badges and Thermoluminescent Dosimeters (TLDs). We included external radiation exposures from other worksites for those who also worked at another Department of Energy (DOE) site. Internal radiation exposures were estimated using worksite urine analysis records collected since 1952.

Exposures to radon, hazardous chemicals, and asbestos were not monitored individually for all workers at the site. We used operational records, job assignments, work locations and available monitoring data to assess these exposures. Though imperfect, these methods are preferred in the absence of individual monitoring data.

How we analyzed the data

We analyzed the data independently, applying the same rigorous process we use in all of our studies. Other studies of Fernald workers noted differences in health risks among hourly versus salaried workers. Studies have also found that hourly employees, as a group, smoke more and may have other lifestyle factors that make them different from salaried employees. We did not have individual smoking data for most workers. For these reasons, we considered hourly versus salaried status when we analyzed the data.

What we found

- We usually see fewer deaths in working groups than in the general population. Healthy people are able to work, but many in the general population are too sick to work. Overall, we found fewer deaths among the **salaried workers** compared with the general population. The number of deaths among **hourly workers** was similar to the general population.
- There were 15% more cancer-related deaths among **male hourly workers** compared with the general population; 575 died of cancer compared with 500 expected among men in the United States. This indicates that male hourly workers have a higher risk of cancer than the general population, though we don't know if this increased risk is job-related or due to other factors. Similar results have been found in other studies of Fernald workers.
- Lung cancer deaths were 25% higher among **male hourly workers** compared with the general population; 223 died of lung cancer compared with 178 expected among U.S. men. This indicates that male hourly workers have a higher risk of lung cancer than the general population, though we don't know if this increased risk is job-related or due to other factors. Similar results have been found in other studies of Fernald workers.

- Cancers of the lymph and blood were 52% higher among **male salaried workers** compared with the general population; 35 died of cancers of the lymph and blood compared with 23 expected among U.S. men. This category included non-Hodgkin lymphoma, leukemia, multiple myeloma, and Hodgkin disease; the first three diseases had more deaths than expected. This indicates that male salaried workers have a higher risk of lymph and blood cancers than the general population, though we don't know if this increased risk is job-related or due to other factors. Similar results have been found in other studies of workers exposed to radiation.
- Urinary tract cancers (bladder and kidney cancer) were almost 4 times higher among **female salaried workers** compared with the general population, though this is based on a small number of deaths; 6 died of a urinary tract cancer compared with fewer than 2 expected among U.S. women. This indicates that female salaried workers have a higher risk of urinary tract cancer than the general population, though we don't know if this increased risk is job-related or due to other factors.
- Among **male workers**, as the exposure to internal radiation increased, so did the risk for intestinal cancer. This indicates that exposure to internal radiation may be linked to intestinal cancer. This has not been found in other studies of Fernald workers.
- Besides intestinal cancer, we did not see links between radiation exposure and any other cause of death we studied. Though we saw increased risk of lung cancer, cancers of the lymph and blood, and urinary tract cancer, as mentioned above, we were not able to link these increased risks to radiation exposure. We do not know if these increased risks are job-related (due to working with a different hazard), due to exposures at other workplaces or in the environment, or due to other factors (e.g. lifestyle, genetics, etc.).

What should I do?

If you worked at Fernald and are worried about your health, share this information with your doctor at your next visit. It is important that your doctor is aware of possible job-related health concerns in case he or she feels you should be monitored for these illnesses.

There are also several medical screening programs for which Fernald workers may be eligible. These programs are run by outside sources, so please contact them directly with any questions you may have about participating.

- Fernald Worker Medical Monitoring Program (FWMMP) 513-870-0900
- Building Trades National Medical Screening Program www.btmed.org or call 1-800-866-9663
- Worker Health Protection Program (WHPP) www.worker-health.org or call 513-367-1333

What does this study mean for the surrounding community?

We know there is some concern about environmental contamination of the community surrounding the Fernald site. Our study focused on the health of those who worked at Fernald; therefore, the results only apply to Fernald workers. If you are interested in health studies of the surrounding community, please contact Dr. Susan Pinney, Associate Professor, University of Cincinnati, 513-558-0684.

We also understand that the Fernald Residents' Medical Monitoring Program is no longer offering medical exams. We've been told that if your family or friends were part of this program, participants may still request copies of their medical records by calling 513-558-0487.

Will the findings from this study require me to resubmit an Energy Employee Occupational Illness Compensation Program Act (EEOICPA) claim?

No, if you previously submitted a claim, you do not need to resubmit a claim.

Will this study make a difference?

You may be wondering why we studied health problems among a study group that is retired, or why we waited so long to do this study. Cancer and other chronic diseases may not occur until many years after exposure. Also, some diseases are rare and only occur late in life. Studies looking at these diseases follow many workers over a long time to assess worker health as best as possible.

We did this study to see if there were health problems that may be a concern among those who worked in a plant that processed uranium. This will help us learn about possible job-related health problems that continue to impact those who are still working with uranium.

For more information

This study summary was prepared to let former Fernald workers know that our study was finished and what we found. If you would like to learn more about this study or other studies we completed, visit our website at www.cdc.gov/niosh/pgms/worknotify/. You may also call 513-841-4343 or 1-800-CDC-INFO. Currently, we do not have any other studies in process that include Fernald workers.

