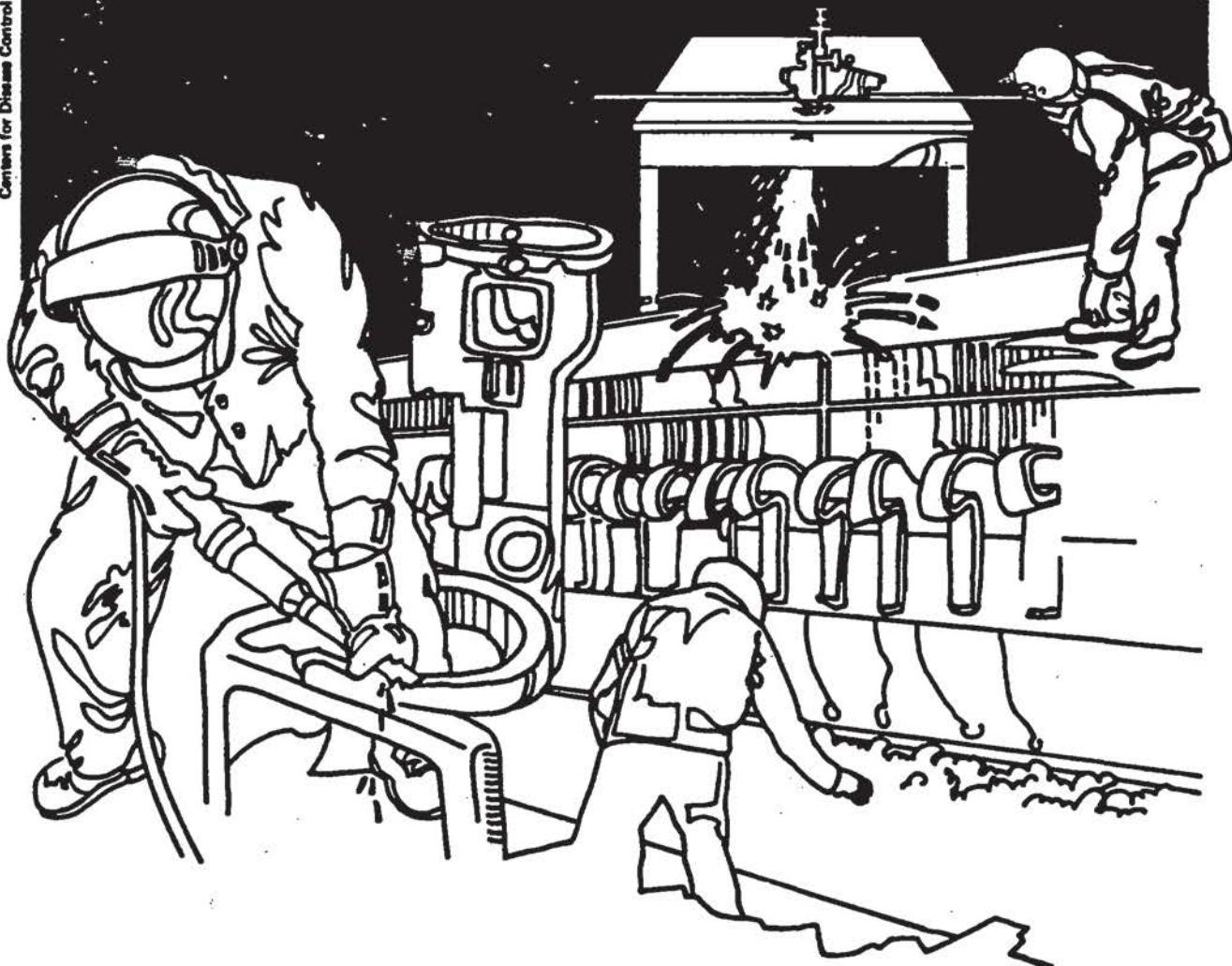


# NIOSH



# Health Hazard Evaluation Report

HETA 82-193-1222  
WESTERN HILLS POST OFFICE  
CINCINNATI, OHIO

## PREFACE

The Hazard Evaluations and Technical Assistance Branch of NIOSH conducts field investigations of possible health hazards in the workplace. These investigations are conducted under the authority of Section 20(a)(6) of the Occupational Safety and Health Act of 1970, 29 U.S.C. 669(a)(6) which authorizes the Secretary of Health and Human Services, following a written request from any employer or authorized representative of employees, to determine whether any substance normally found in the place of employment has potentially toxic effects in such concentrations as used or found.

The Hazard Evaluations and Technical Assistance Branch also provides, upon request, medical, nursing, and industrial hygiene technical and consultative assistance (TA) to Federal, state, and local agencies; labor; industry and other groups or individuals to control occupational health hazards and to prevent related trauma and disease.

Mention of company names or products does not constitute endorsement by the National Institute for Occupational Safety and Health.

HETA 82-193-1222  
NOVEMBER 1982  
WESTERN HILLS POST OFFICE  
CINCINNATI, OHIO

NIOSH INVESTIGATORS:  
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I. SUMMARY

In April, 1982, the National Institute for Occupational Safety and Health (NIOSH) made an on-site inspection of the Western Hills Post Office, Cincinnati, Ohio in response to an employee request for a Health Hazard Evaluation. Workers expressed concern about four cases of lymphoma which had reportedly occurred during the past two years among their labor force.

An analysis of medical records of the four workers with cancer revealed only two to have lymphoma. There were no apparent sources of chemical exposure at the worksite. Environmental sampling revealed no airborne organic vapors or particulate heavy metals in excess of OSHA standards or NIOSH recommended standards. Ceiling material contained no asbestos.

Analysis of questionnaire and industrial hygiene data failed to demonstrate any existing hazardous condition at the worksite which might be associated with the verified cases of lymphoma. The cause or causes of the illness remains unknown, but it is unlikely that the lymphomas were related to work at the post office.

KEYWORDS: SIC 4311, post office workers, lymphomas.

II. INTRODUCTION/BACKGROUND

In April, 1982, the National Institute for Occupational Safety and Health (NIOSH) made an on-site inspection of the Western Hills Post Office, Cincinnati, in response to an employee request for a Health Hazard Evaluation. Workers expressed concern about four cases of lymphoma which had reportedly occurred during the past two years among their labor force. An initial visit was made April 16, 1982 and environmental sampling was conducted July 21 and September 8, 1982.

The current workforce consisted of 78 employees, 74 of whom were white males. The average letter carrier spends approximately 3 hours per shift inside the post office building sorting mail; the rest of the shift is spent outside the building delivering mail. Some workers complained of dust from handling sacks and getting dyes/inks on their hands from touching magazines and newspapers. Otherwise, they reported no known exposure to chemicals at the workplace. In addition, the only changes in the work environment included a rearrangement of the "casing coops", where each worker sorts his own mail.

III. EVALUATION CRITERIA

Lymphoma is a general term applied to any neoplastic disorder (i.e., tumor) of the lymphoid tissue and usually refers to malignant lymphoma.(1,2) The incidence of the disease (non-Hodgkins' type) is higher in men than women and seems to increase with age. The etiology or cause is unknown, although experimental evidence suggests that viruses may play a causative role.(3)

The International Agency for Research on Cancer (I.R.A.C.) has published a list of 18 chemicals and industrial processes which are carcinogenic, (or cancer causing) for humans as well as a list of those which are probably carcinogenic to humans.(4) None of the chemicals or processes named have been found in the Western Hills Post Office facility.

IV. METHODS

A. Medical

The NIOSH medical investigator interviewed four employees reported to have lymphomas. Copies of medical records available through private physicians were also reviewed.

B. Environmental

Environmental sampling at the Western Hills Post Office consisted of collecting particulate air samples for metals and charcoal tube air samples for organic vapors from five locations throughout the mailroom. Also, a bulk sample of ceiling material was analyzed by GC/MS screening for asbestos content.

Five total particulate air samples were collected on AA filters at a flowrate of 2.0 liters per minute (lpm) for approximately eight hours. The particulate air samples were analyzed for trace metals content. Five air samples were collected on charcoal tubes at a flow rate of 0.2 lpm for approximately five hours. The charcoal tubes were analyzed for the two primary organic constituents: toluene and xylene.

**V. FINDINGS**

**A. Medical**

A walk-through of the Western Hills Post Office facility on April 16, 1982, revealed no obvious exposures to toxic chemicals or substances.

A review of medical records of the four alleged cases of lymphoma originally reported to us, identified only two confirmed cases of lymphoma, 1 case of adenocarcinoma of the rectum, and one case of squamous cell carcinoma of the mouth, all diagnosed between June, 1980, and March, 1982. Therefore the size of the cluster is half of what it was originally thought to be. The two individuals with lymphoma were both letter carriers, but were of different ages, worked different routes, and had spent differing number of years working at the Western Hills Branch. In addition, only one had a history of past chemical exposure at a previous workplace (not a post office).

**B. Environmental**

Laboratory analysis of the particulate air samples taken at the post office showed, of 32 metals tested for, only calcium (< 1.0 to 1.3 ug/m<sup>3</sup>), iron (< 1.0 to 19.3 ug/m<sup>3</sup>), and sodium (< 1.0 to 2.3 ug/m<sup>3</sup>) to be in a detectable range; all were well below OSHA legal and NIOSH recommended standards.

Laboratory analysis of the charcoal tube samples revealed air concentrations for toluene ranging from 0.13 to 0.26 parts per million (ppm) and for xylene ranging from 0.01 to 0.05 ppm. Air concentrations for both toluene and xylene are well below NIOSH's recommended criteria of 100 ppm for each compound.

Finally, the bulk ceiling sample taken from the main entrance hallway revealed no asbestos content.

**VI. CONCLUSIONS**

The diagnosis of two cases of lymphoma within two years among a workforce of 1978 at the Western Hills Post Office is probably a chance occurrence. At this time, there are no identifiable hazardous conditions or exposures originating at the post office to suggest an association between the disease and the workplace.

## VII. REFERENCES

1. Dorland's Medical Dictionary, 25th Ed., (Phila: W. B. Saunders), 1974, p. 896.
  2. Harrison's Principles of Internal Medicine, 8th Edition (Editor: Geo. Thorn, et. al.), (New York: McGraw-Hill), 1977.
  3. American Cancer Society, Cancer: A Manual for Practitioners, 5th Ed., (Boston: 1978), p. 257.
  4. I.A.R.C., Evaluation of the Carcinogenic Risk of Chemicals to Humans, IARC Monographs Supplement 1, Sept., 1979, pp. 9-14.

## VIII. AUTHORSHIP AND ACKNOWLEDGEMENTS

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#### VIII. DISTRIBUTION AND AVAILABILITY OF REPORT

Copies of this report are currently available upon request from NIOSH, Division of Standards Development and Technology Transfer, 4676 Columbia Parkway, Cincinnati, Ohio 45226. After 90 days, the report will be available through the National Information Service (NTIS), 5285 Port Royal, Springfield, Virginia 22161. Information regarding its availability through NTIS can be obtained from NIOSH Publications Office at the Cincinnati address. Copies of this report have been sent to:

1. Manager/Postmaster
  2. NALC, Branch 43
  3. Manager, Western Hills Post Office
  4. NIOSH, Region V
  5. OSHA, Region V

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