Mr. Green
26/7

[redacted]

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Dr Harris
Dr Oliver
Dr Walford
Mr Whittington
Miss Edwards
Mr J A Parker
Dr Sibellas
Mr Fanning

An Evaluation of the Acquired Immunodeficiency Syndrome (AIDS) Reported in Health-Care Personnel — United States

As of July 11, 1983, physicians and health departments in the United States and Puerto Rico had reported a total of 1,831 patients meeting the CDC surveillance definition of the acquired immunodeficiency syndrome (AIDS) (*1*). Of these, four were reported to be health-care personnel not known to belong to groups at increased risk for AIDS. Onset of illness in these patients occurred between June 1981 and April 1983. The source of AIDS in these four patients is unclear, and none had documented contact with another AIDS patient. Additional cases have been reported in health-care personnel; however, these have either occurred in persons belonging to AIDS risk groups or in persons for whom information is insufficient to determine if they belong to such groups. The case histories for the four patients follow.

Patient 1: A 32-year-old black man living in Baltimore, Maryland, was in good health until January 1983, when he complained of lower abdominal discomfort, relieved by urination, and blood in his stools. Medical evaluation, which included a renal sonogram and an abdominal CAT scan, revealed no cause for his complaints, and his symptoms subsided without treatment. At the same time, he began to lose weight. On May 13, he presented to his private physician with complaints of fever and cough of 2-3 days' duration. His temperature was 37.8 C (100 F). Chest x-ray showed a questionable right upper lobe infiltrate, and he was given oral erythromycin.

On May 21, 1983, the patient went to a Baltimore hospital, where he was found to have bilateral pulmonary infiltrates. He was hospitalized and sulfamethoxazole/trimethoprim was added to his therapy. On May 24, a transbronchial lung biopsy showed *Pneumocystis carinii* pneumonia (PCP); results of immunologic studies were consistent with AIDS. Despite the addition of pentamidine isethionate to his therapy, his condition worsened, and he died on June 2. At autopsy, no evidence of malignancy was found.

The patient had worked for the housekeeping department of a hospital since 1968. Beginning in August 1981, he worked exclusively in the ambulatory surgery area, where his duties included removal of surgical drapes and disposable surgical equipment, which were often contaminated with blood. Reportedly, he usually did not wear gloves.

On February 26, 1982, the patient went to the employee-health nurse for treatment of a needlestick injury. The patient stated that, while disposing of a cardboard box containing used needles, he had been stuck on the hand by a needle protruding from the box. Blood samples were drawn for hepatitis B virus serologic tests, and a single 2-ml dose of immune globulin (IG) was given intramuscularly. (IG therapy has not been reported in other AIDS patients not belonging to known risk groups.) The serologic tests were positive for antibody to hepatitis B surface antigen but negative for the antigen. No other injuries had been recorded on his employee-health record.

When interviewed by his physicians, the patient denied homosexual activity, intravenous (IV) drug use, foreign travel, or transfusion. After the patient's death, interviews by the Baltimore City Health Department of his family and friends confirmed his history. Four of his female sexual partners were interviewed, and all denied IV drug use; none had a history compatible with AIDS. The patient had no history of treatment for venereal diseases, and serologic tests for syphilis (RPR, MHA-TP, FTA-ABS), done during his hospitalization for PCP, were negative.

No patient meeting the CDC surveillance definition of AIDS was reported to have been seen at the hospital where patient 1 worked. In June 1982, 4 months after the needlestick injury and 7 months before patient 1 became ill, a homosexual man with a history of chronic,

GRO-C

DR IAN T FIELD
Med.IMCD
AFH C716
Ext. GRO-C

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[redacted]

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unexplained lymphadenopathy underwent a lymph node biopsy in the ambulatory surgery area of the hospital. Although patient 1 was working in this area on the day of the biopsy, the extent of his contact, if any, with the lymphadenopathy patient or materials used in the biopsy procedure is unknown.

Patients 2-4: Less epidemiologic information is available for patients 2-4 than for patient 1. They appear either more likely to have belonged to AIDS risk groups or less likely to have had exposure to blood than patient 1. All had immunologic studies consistent with AIDS.

Patient 2, a 32-year-old American Indian woman, was living in New Jersey when she became ill in 1981. She was found to have PCP, recovered following treatment, but died of cerebral toxoplasmosis in 1982. She had worked in a hospital laundry since 1980. During her employment, a patient with possible AIDS had been admitted to the hospital where she worked, but she had no direct contact with this person. Although she used marijuana, cocaine, and mescaline, she denied IV drug use. She also denied foreign travel, receipt of blood, and sexual contact with men who were bisexual or IV drug users. (This patient has been previously reported elsewhere [2].)

Patient 3, a 34-year-old Jamaica-born man, was living in Miami, Florida, when he became ill in 1982. He was found to have PCP and recovered following treatment. He had come to the United States in 1979 and had worked as a private-duty nurse in Miami since then. He denied contact with AIDS patients; a subsequent review of his work assignments showed that he had not cared for any patients reported to have AIDS. He did not recall ever having a needlestick injury. He also denied homosexual activity, IV drug use, and receipt of blood. One of his female sexual partners was interviewed. She was in good health and denied IV drug use. Another of his female partners could not be located.

Patient 4, a middle-aged man, was living in New York City when he became ill in 1983. He was found to have PCP and recovered following treatment. He worked as a nurse's aide in the outpatient department of a hospital. AIDS patients had been seen at this hospital, but he apparently had not cared for any of them. In the past, he had had needlestick injuries and had received bites from patients, but could recall no such injuries for more than 2 years. Although he admitted to a homosexual encounter as an adolescent, he denied homosexual activity as an adult. He also denied IV drug use and receipt of blood and had no foreign travel since 1976. His serologic tests for syphilis (FTA-ABS) and hepatitis B virus (antibody to hepatitis B core antigen) were positive.

Reported by S Rosen, MD, Baltimore, M Levin, MD, R Berg, MD, D Dutta, MD, S Baker, Sinai Hospital, Baltimore, D Williams, C Campbell, R Dunning, D Glasser, MD, Baltimore City Health Dept, J Horman, DVM, E Israel, MD, State Epidemiologist, Maryland State Dept of Health and Mental Hygiene; U Setia, MD, R Kapila, MD, University of Medicine and Dentistry New Jersey, Newark, W Parkin, DVM, State Epidemiologist, New Jersey State Dept of Health; J Ehrenkrantz, MD, South Florida Hospital Consortium for Infection Control, Miami, R Morgan, MD, Dade County Health Dept, J Sacks, MD, Acting State Epidemiologist, Florida State Dept of Health and Rehabilitative Svcs; S Friedman, MD, New York City Dept of Health, R Rothenberg, MD, State Epidemiologist, New York State Dept of Health; Div of Field Svcs, Epidemiology Program Office, Hospital Infections Program, AIDS Activity, Center for Infectious Diseases, CDC.

Editorial Note: Although the etiology of AIDS remains unknown, epidemiologic evidence suggests that AIDS is caused by an infectious agent transmitted sexually or, less commonly, through exposure to blood or blood products. The disease has not been shown to be transmitted through casual contact with affected individuals.

Continuing surveillance of AIDS confirms earlier observations that 94% of patients come from the high risk groups previously described (*3*). The source of AIDS in the patients reported here is unknown. They denied belonging to known AIDS risk groups; however, the accuracy of data concerning sexual activity and IV drug use cannot be verified. None gave a history

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of caring for an AIDS patient, and none had known contact with blood of an AIDS patient; however, the possibility that these patients had forgotten or unknown exposure to the blood of AIDS patients cannot be entirely excluded.

These four cases provide no new information regarding occupational risk related to health-care personnel. Transmission of AIDS within hospitals has not been reported. Recommendations for prevention of AIDS in health-care personnel have been previously published (*4*), and these personnel are urged to become familiar with and adhere to these recommendations.

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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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