ABSTRACT #1027

Occupationally Acquired HIV Infection by Healthcare Personnel–United States, 1985-2013

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Objective

Since 1991, CDC has investigated all cases of HIV infection reported as acquired occupationally by healthcare personnel (HCP). In this study we reviewed CDC surveillance data to update the last report on this subject from 2003 (1).

Background

Since 1991, reports of occupationally acquired HIV in HCP have been recorded by the National HIV Surveillance System following a standardized case investigation protocol.

In 1987, CDC recommended the use of "universal precautions," which became a part of "standard precautions" in 1995, to prevent occupational HIV exposures.

Since 1996, occupational postexposure prophylaxis with antiretrovirals to prevent infection has been recommended.

Methods

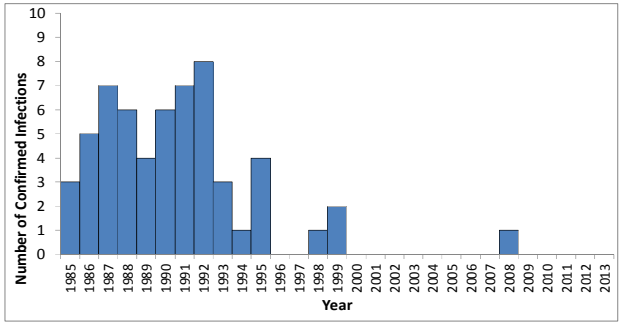
Case investigations of HIV infection in HCP attributed to exposure to HIV in the workplace are conducted by state health department HIV surveillance staff members with assistance from CDC.

HCP are defined as all paid and unpaid persons working in health care settings with the potential for exposure to infectious materials (e.g., blood, tissue, and specific body fluids) or contaminated medical supplies, equipment, or environmental surfaces. HCP can include but are not limited to physicians, nurses, dental personnel, laboratory personnel, students and trainees, and persons not directly involved in patient care (e.g., housekeeping, security, and volunteer personnel).

A confirmed case of occupationally acquired HIV infection requires documentation that seroconversion in the exposed HCP is temporally related to a specific exposure to a known HIV-positive source. An HCP should immediately report an exposure event to a supervisor or facility-designated person in accordance with the institution's infection control procedures. The serostatus of the source patient and of the exposed HCP should be documented at the time of the exposure and, exposed HCP should be counseled on risk and offered postexposure prophylaxis as appropriate.

A possible case of occupationally acquired HIV infection is defined as an infection in an HCP whose job duties might have exposed the HCP to HIV but who lacks a documented workplace exposure. If the HIV status of the source patient is unknown or the HCP's seroconversion after exposure was not documented as temporally related, occupational acquisition of HIV infection is possible but cannot be confirmed.

Number of Confirmed Cases (N=58) of Occupationally Acquired HIV Infections Among HCP Reported to the CDC – United States, 1985-2013



Number of Confirmed and Possible Occupationally Acquired HIV Infections Among HCP Reported to the CDC – United States, 1985-2013

Occupation	Confirmed	Possible
Nurse	24 (41.4%)	37 (24.7%)
Laboratory technician, clinical	16 (27.6%)	21 (14.0%)
Physician, nonsurgical	6 (10.3%)	13 (8.7%)
Laboratory technician, nonclinical	4 (6.9%)	-
Housekeeper/maintenance worker	2 (3.4%)	14 (9.3%)
Technician, surgical	2 (3.4%)	2 (1.3%)
Embalmer/morgue technician	1 (1.7%)	2 (1.3%)
Hospice caregiver/attendant	1 (1.7%)	16 (10.7%)
Respiratory therapist	1 (1.7%)	2 (1.3%)
Technician, dialysis	1 (1.7%)	3 (2.0%)
Dental worker, including dentist	-	6 (4.0%)
Emergency medical technician/paramedic	-	13 (8.7%)
Physician, surgical	-	6 (4.0%)
Technician/therapist, other than listed above	-	9 (6.0%)
Other healthcare occupations	-	6 (4.0%)
Total	58 (100%)	150 (100%)

Results

During 1985–2013, 58 confirmed and 150 possible cases of occupationally acquired HIV infection among HCP were reported to CDC; since 1999, only one confirmed case (a laboratory technician sustaining a needle puncture while working with a live HIV culture in 2008) has been reported (1, 2) . (See Figure)

Among the 58 confirmed cases, the routes of exposure resulting in infection were: percutaneous puncture or cut (n=49), mucocutaneous exposure (n=5), both percutaneous and mucocutaneous exposure (n=2), and unknown (n=2).

Among the 58 confirmed cases, 49 HCP were exposed to HIV-infected blood, 4 to concentrated virus in a laboratory, 1 to visibly bloody fluid, and 4 to unspecified body fluids. Occupations of the HCP with confirmed or possible HIV infection have varied widely. (See Table)

Conclusions

Documented occupational acquisition of HIV infection in HCP has become rare in the United States. Few confirmed cases have been reported since the late 1990s. Whereas the paucity of cases could be the result of underreporting, it might indicate the effectiveness of more widespread and earlier treatment to reduce patient viral loads, combined with prevention strategies such as postexposure management and prophylaxis as well as improved technologies and training to reduce sharps injuries and other exposures.

References

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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