Post-Exposure Prophylaxis (PEP) in New York City Emergency Departments, 2002-2013

Zoe R. Edelstein1, Stephanie Ngai1, Don Weiss1, Paul M. Salcuni1, Julie E. Myers1,2
1New York City Department of Health and Mental Hygiene, Queens, NY; 2Division of Infectious Diseases, Department of Medicine, Columbia University Medical Center, New York, NY

Background

• HIV post-exposure prophylaxis (PEP) can prevent HIV if taken within 36 hours of potential exposure
• PEP has been recommended by the Centers for Disease Control and Prevention (CDC) for occupational exposures since 1998 and for non-occupational exposures since 2005
• We examined trends in PEP-related emergency department (ED) visits in New York City (NYC) from 2002 to 2013

Objectives

• Examine trends in PEP-related visits in NYC EDs over time
• Identify individual- and neighborhood-level characteristics associated with PEP-related visits to NYC EDs

Methods

Study design and population

• Longitudinal analysis of NYC syndromic surveillance of ED visits
  • Covered between 30 and 51 hospitals, 2002-2013
  • Included all NYC ED patients aged 13-64 years old

Data collection

• Data collected included patient age, sex, residential ZIP code, and chief complaint
• PEP-related visits were identified by chief complaint keyword scan
  • HIV' or 'HUMAN IMMUNOD' plus ≥1 of: 'PROPHY', 'POST EXPOSURE', 'ZIP', 'EXPOS', 'EXPOSED', 'NEEDLE', 'BLOOD', 'FLUID', 'RAPE', 'SEXUAL ASSAULT', 'W46'
  • Multivariable model included:
    • Patient age, years: 13-29, 30-36
    • Patient sex: male, female
    • Neighborhood of residence poverty rate, dichotomized:
      • High: top quartile
      • Low: <20% below FPL
    • Neighborhood of residence annual HIV diagnosis rate, dichotomized:
      • High: ≥20
      • Low: <20
    • Sex: male, female

Results

Total PEP-related visits

We identified 2,162 PEP-related visits in NYC EDs monitored by syndromic surveillance, 2002-2013

Trend in PEP-related visits

Proportion of PEP-related visits increased from 4 per 100,000 in 2002 to 33 per 100,000 in 2013 (p<0.0001) (Figure 1, Total)

Bivariate analyses (Table 1)

PEP-related visits were significantly associated with all characteristics examined

Multivariable analysis (Table 2)

• PEP-related visits were associated with neighborhood poverty rate and HIV diagnosis rate, highest in Chelsea-Clinton (Figure 2)
  • Significant interaction with calendar year for both age and sex
  • Stronger association with male sex and younger age over time
  • Increases in PEP-related visits in males only (Figure 2)

Table 1. Descriptive and bivariate analysis of associations with PEP-related ED visits, NYC, 2002 - 2013

Table 2. Multivariable analysis of associations with PEP-related ED visits, NYC, 2002 - 2013

Discussion

Figure 1. Proportion of PEP-related ED visits per 100,000 ED visits, by sex, NYC, 2002 - 2013

Trends and associations may not be generalizable to other clinical environments in NYC, or to clinics outside of NYC

Figure 2. PEP-related ED visits by patients’ neighborhood of residence compared to neighborhood poverty level and HIV diagnosis rate, New York City

Table 3. Examples of recent NYC DOHMH materials for potential PEP prescribers (left) and patients (right)

Limitations

• PEP-related visits in NYC EDs increased over the past decade
• Associations with male sex and younger age grew stronger over time
  • Could indicate changes in PEP prescribing patterns, with uptake possibly increasing among a priority group: young men who have sex with men (MSM)
  • Highest rate in 2013 among residents of Chelsea-Clinton, neighborhood where many MSM live
• Associations with residence in neighborhoods with higher HIV diagnosis rates may demonstrate appropriate targeting of PEP
• Findings regarding lower proportions of PEP-related visits among patients residing in high poverty neighborhoods may highlight disparities in access
• NYC DOHMH currently supports awareness campaigns (Figure 3) and access to PEP in non-ED environments to address disparities that may impact PEP access
• Efforts are being made to leverage multiple existing data sources to track PEP-related trends citywide

Contact: Zoe Edelstein
zedelst1@health.nyc.gov
347-396-7650

*Chief complaint data in Staten Island EDs are captured for inpatients only; proportion of PEP-related ED visits may be underestimated.