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Tracking HIV Post-Exposure Prophylaxis using Syndromic Surveillance in NYC Emergency Departments

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Objective

To describe trends in HIV post-exposure prophylaxis uptake in New York City (NYC) emergency departments (EDs).

Introduction

HIV post-exposure prophylaxis (PEP) involves taking antiretroviral medication after potential exposure to HIV to reduce the probability of becoming infected. New York State recommends PEP following certain occupational (e.g., needle sticks by healthcare workers) and non-occupational (e.g., sexual and needle-sharing activities) exposures.[1] Little information exists on the uptake of PEP for HIV in the United States, particularly with regard to non-occupational exposures.[2] ED data have been used previously to identify occupational PEP visits[3] but have not been used extensively to describe trends in PEP visits overall. We aimed to identify HIV-related PEP visits in NYC EDs to track uptake and inform outreach efforts.

Methods

ED visits in NYC reported to the NYC Department of Health and Mental Hygiene from January 1, 2002 through December 31, 2013 were analyzed. A primary case definition for a PEP-related visit was developed to search chief complaint and discharge diagnosis fields, containing combinations and alternate spellings of the following keywords and ICD-9 codes: 'HIV', 'POST-EXPOSURE PROPHYLAXIS', 'PEP', 'NPEP', 'EXPOSED', 'NEEDLE', 'BLOOD', 'FLUID', 'RAPE', 'SEXUAL ASSAULT', V01.6, V01.7, and E920.5. ICD-9 codes were not available in the dataset until 2008. An alternative, more inclusive case definition was also developed that included terms for HIV testing, STD-related visits, high-risk sexual behavior, sexual assault, needle exposures, and blood or body fluid. PEP visits as a proportion of total ED visits by year were used for analysis, and tests for trend were performed using logistic regression. Tests for trend were stratified by sex, and descriptive analyses were stratified by five-year age groups.

Results

Using the primary case definition, we identified 2573 PEP-related visits in NYC EDs from 2002-2013. Chief complaint was used to identify 86% (2223) of visits; only these visits were used to assess trends. PEP-related visits increased from 0.003% to 0.011% of all reported ED visits from 2002-2013 ($p<0.0001$). The alternate case definition identified an additional 82,176 visits. When stratified by age group, the highest proportion of visits was among persons ages 25-29 (25%), followed by ages 30-34 (20%). Males accounted for 73% of PEP visits overall; this proportion increased from 64% to 82% from 2002-2013 ($p<0.0001$).

Conclusions

PEP-related visits as a proportion of all NYC ED visits increased over threefold during the past decade. This may reflect increases in PEP use generally and/or increases in PEP prescribing in EDs. PEP awareness among patients may also be increasing given that results were primarily based on the chief complaint field. PEP-related visits were more common in men and younger adults, possibly reflecting greater PEP use among populations at higher risk for HIV, such as men who have sex with men. Incorporation of the primary case definition into routine surveillance could help monitor citywide usage and uptake of PEP and inform efforts to educate providers and NYC residents.

Keywords

HIV; post-exposure prophylaxis; syndromic surveillance; PEP; NPEP

References

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