

# HIV Testing and Monitoring in Privately Insured Members Recently Diagnosed with Potential AIDS Defining Events

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## Background

- In 1993, the Centers for Disease Control published the surveillance case definition for AIDS
- The expanded guideline requires laboratory confirmation of HIV infection in persons with a CD4+ T-lymphocyte count lower than 200 cells/uL, or with one of the AIDS-Defining Conditions (MMWR March 11, 1994 / 43 (09);160-161, 167-170)
- The CDC recommended that clinicians should be aware of these clinical conditions which are highly suggestive of HIV infection and the need for prophylactic and therapeutic interventions

## Objective

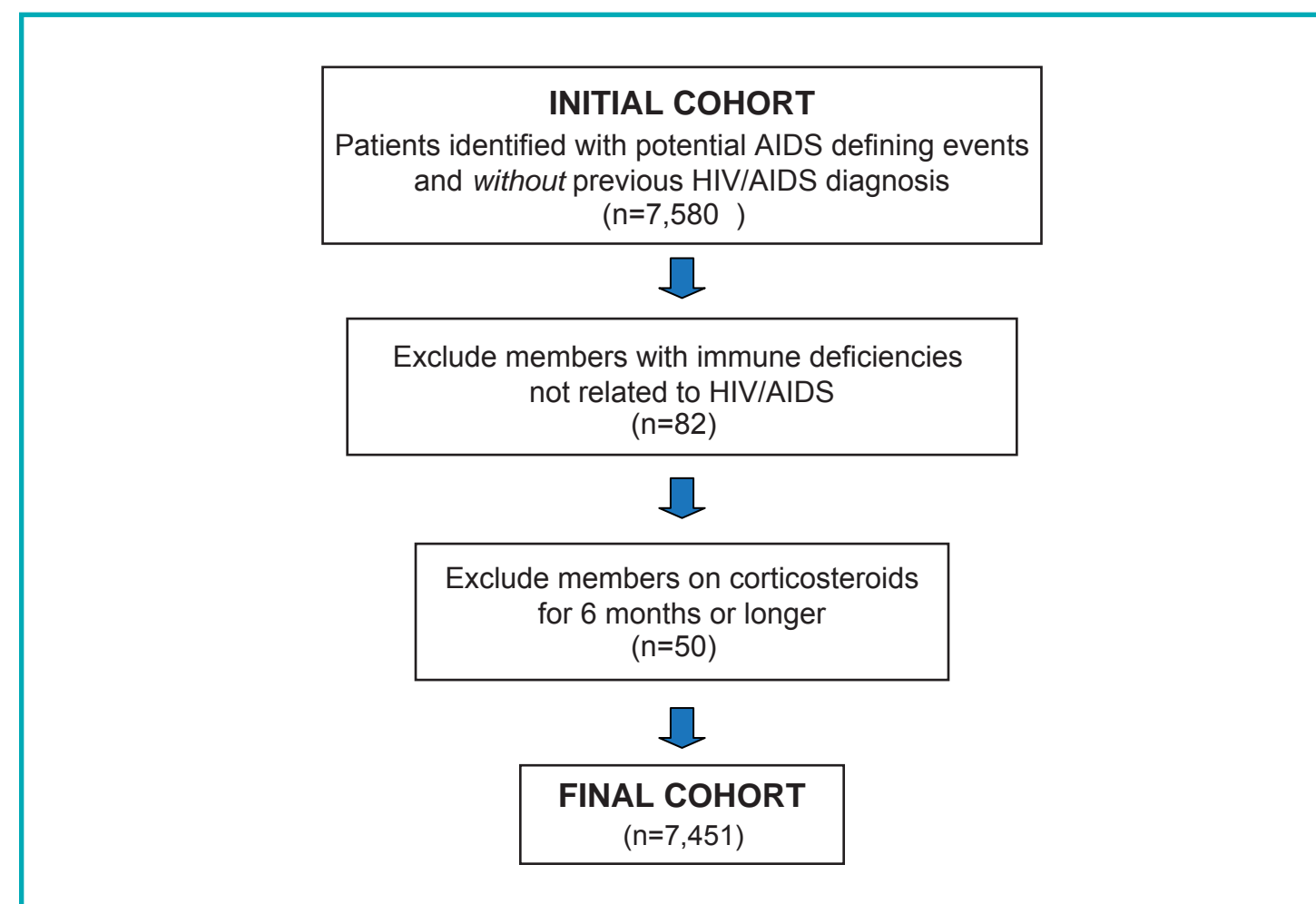
- To assess the rate of HIV screening or monitoring among insured members diagnosed with potential AIDS defining events and without an existing HIV/AIDS diagnosis

## Methods

- Data Set**
  - 2006 administrative claims data for 8 US health plans - 7 from commercially insured population and 1 from members in Medicaid HMO
- Study Sample** (n=7,451)
  - Inclusion Criteria
    - Continuously insured for 365 days prior to and 60 days after a potential AIDS defining event
  - Exclusion Criteria
    - History of HIV, immune deficiencies, or organ transplant
    - On hospice, immunosuppressive medications, or prolonged oral steroid use (≥ 180 day supply)
- Variables**
  - Dependent = HIV screening test, CD4 count, or HIV viral load (y/n) in 150 days prior through 60 days after the AIDS defining event
  - Independent
    - Type of AIDS defining event
    - Age
    - Gender
    - Comorbidity index using Elixhauser method (*Elixhauser, et al. 1998*)
    - Income by matching zip code with median income from 2000 US Census data
      - Divided into terciles (i.e., < \$30,506; \$30,506-\$52,693; > \$52,693)
    - Cancer (other than cancers associated with AIDS defining events) (y/n),
    - Have Crohn's, rheumatoid arthritis, or other collagen vascular diseases (y/n)
    - Hospitalized in the past year (y/n)
    - Visited an E.R. in the past year (y/n)
    - Region (i.e., Northeast, Midwest, West, South)
- Statistical Analyses**
  - Multivariate logistic regression, p < 0.05 were considered significant

## Methods (cont'd)

Figure 1. Inclusion/Exclusion Criteria



## Results

Table 1. Population Characteristics

Characteristics	Study Sample (n=7,451)
Age (mean [SD])	50.0 years [23.0]
Male (%)	45.2%
Two or more comorbidities (%)	45.1%
Mean Income	\$48,432
Have other cancer (%)	22.8%
Have Crohn's, rheumatoid arthritis, or other collagen vascular diseases (%)	4.0%
Were hospitalized in the past year(%)	32.1%
Visited emergency room in the past year (ER) (%)	34.1%
Region	
Northeast	2.1%
Midwest	37.0%
South	59.3%
West	1.5%

## Results (cont'd)

Table 2. HIV Screening by Potential AIDS Defining Event Category

Potential AIDS Defining Event	N	Screening Rate
Burkitt's or immunoblastic lymphoma or primary lymphoma of brain	2,980	3.0%
Encephalopathy	2,066	5.0%
Invasive cervical cancer	958	4.4%
Candidiasis of bronchi, trachea, lung, or esophagus	542	7.0%
Histoplasmosis, disseminated or extrapulmonary	370	2.2%
Wasting /Cachexia	350	4.3%
Disseminated herpes or herpes meningitis	94	13.8%
<i>M. avium</i> or <i>M. kansasii</i> , disseminated or extrapulmonary	67	13.4%
<i>Pneumocystis carinii</i> pneumonia	48	10.4%
Kaposi's sarcoma	35	8.6%
Progressive multifocal leukoencephalopathy	20	0.0%
CMV pneumonia or retinitis	16	25.0%
Coccidioidomycosis, disseminated or extrapulmonary	13	7.7%
Cryptococcosis, extrapulmonary	11	9.1%
Misc (toxoplasmosis of brain, chronic isosporiasis, salmonella septicemia, chronic cryptosporidiosis)	5	20.0%

Table 3. Multivariate Analysis

Characteristics	Odds Ratio (95% CI) for HIV Screening, p value
Age (reference: 18 to 49 years)	
< 18	0.07 (0.07 0.15), p < 0.001
50 to 64	0.29 (0.22 0.38), p < 0.001
> 64	0.08 (0.05 0.13), p < 0.001
Female (reference: male)	Not Significant (NS)
Comorbidity Index	1.14 (1.08 1.20), p < 0.001
Other cancer (reference: no)	NS
Crohn's, RA, other collagen vascular disease (reference: no)	NS
Income level (reference: > \$52,693)	
\$30,506 to \$52,693	NS
< \$30,506	NS
Hospitalized (reference: no)	2.03 (1.47 2.81), p < 0.001
Visited emergency room (reference: no)	NS
Region (Northeast)	
Midwest	NS
South	NS
West	NS

a. Controlled for type of AIDS defining event

## Conclusions

- HIV screening rates among individuals with potential AIDS defining events are very low, even when other reasons for immunosuppression are excluded from analyses
- Adolescents (age < 18) and older individuals (age 51 and older) were less likely to be screened for HIV
- Interventions are needed by commercial health plans to ensure that members with potential AIDS defining events are screened for HIV infection

## Acknowledgements

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Figure 2. Percentage of Patients who had an HIV Antibody Test, CD4 Count, or HIV Viral Load 150 days through 60 days after Diagnosis of Potential AIDS Defining Event

