Twenty Years' Experience with HIV Testing among Emergency Department Patients at the Johns Hopkins Hospital

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BACKGROUND

- Prevalence of undiagnosed HIV infection among patients presenting to urban emergency departments (ED) remains high
- ED-based HIV testing has been shown to be cost-effective and represents opportunity for diagnosis of unknown infection
- Current CDC Guidelines for HIV testing in medical settings (2006) support HIV testing in ED setting

OBJECTIVE

To describe:

- Trends in HIV prevalence and incidence
- Trends in rates of unrecognized HIV infections
- Trends in risk-factors for HIV infection

…in ED patients over a 20-year period (1987-2007)

METHODS

Sampling

- Adult patients (ages ≥ 18 years) presenting to urban, Level I academic ED with 60K annual census and HIV testing programs in place
- Cross-sectional sampling periods of 6 weeks to 8 months in length between 1987 and 2007 (most recent Jun – Aug 2007)

Data Collection

- Excess sera samples from medical blood draws
- Medical record review and patient interviews
- IRB-approved Identity-unlinked methodology

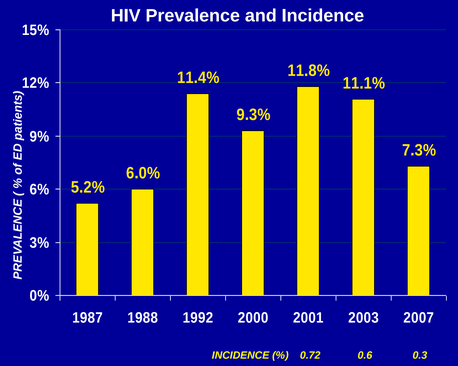
Laboratory Testing :

- EIA: Bio-Rad HIV-1/HIV-2 Plus O EIA
- WB: Bio-Rad HIV-1 Western Blot

HIV (+) Specimens:

- Viral Load Quantification: AMPLICOR® HIV-1 Monitor Test (ver. 1.5), Roche, Indianapolis, IN, USA
- Incidence Testing: Avidity assay (BioRad HIV 1/2+O EIA, Avidity) Bio-Rad Laboratories, Redmond, WA, USA

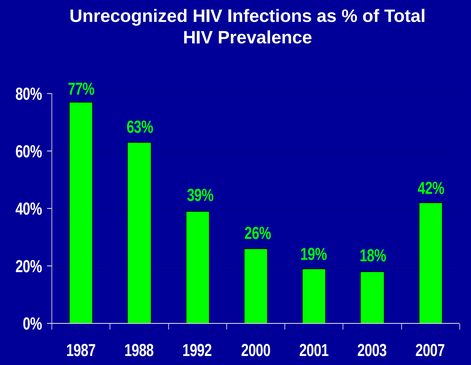
RESULTS

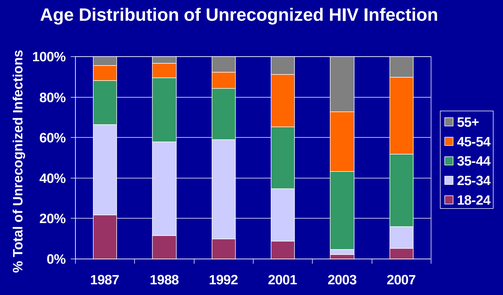


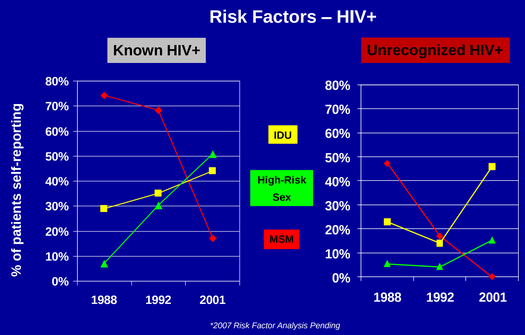
Sample Size by Year

Year	N
1987	2,302
1988	2,544
1992	1,606
2000	774
2001	1,418
2003	2,146
2007	3,762

- Overall, *>14,500* specimens tested







**2007 Risk Factor Analysis Pending*

CONCLUSIONS

Potential Limitations

- Incomplete risk factor data
- No long-term follow-up of subjects
- Single institution

Notable outcomes

- Unique HIV data on ED population
- Patients in our ED continue to have high rates of HIV infection
- Recent overall prevalence and incidence trending downward
- Unrecognized infection rates had trended below national average with recent marked increase in unrecognized infection rates

Practice Implications

- "Graying" of HIV+ population in our ED could signal change in epidemic and health status of patients with HIV
- Risk factors in our population mimic national data
- ED-based HIV testing can provide epidemiologic information about epidemic as well as diagnosis of unrecognized infection

Future Directions

- Better understand clinical presentation, treatment, & disposition of patients with HIV
- Evaluate recent ED-based initiatives for identification & management of patients with HIV (National ED HIV Testing Consortium)
- Continue to define role of emergency departments in broader public health efforts to prevent, detect, & manage HIV infection

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