Prenatal HIV Screening Among Privately Insured Women: Association with Regional AIDS Prevalence and Incidence

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E Dahlin-Lee,[1] JY Chen,[1] H Tian,[1] F Everhard,[2] and K Mayer[3]

[1]Health Benchmarks, IMS Health, Woodland Hills, CA USA; [2]Gilead Science, Inc., Foster City, CA, USA; [3]Brown University, Providence, RI, USA

Judy Y Chen
Health Benchmarks, Inc., IMS Health
21650 Oxnard Street, Suite 550
Woodland Hills, CA 91367
(T): 818-676-2883
(F): 818-715-9934

Background

- It is estimated that without appropriate treatment 25% of pregnant women infected with HIV will transmit the virus to their infant
- Current use of highly active antiretroviral therapy and selected elective caesarian delivery have further reduced transmission to less than 2%
- In addition, because of the high lifetime costs involved with treating HIV, universal screening of pregnant women is cost effective, even in areas of low HIV prevalence
- The CDC guidelines regarding prenatal screening state that:
  - HIV screening should be part of routine prenatal care for all women
  - Prenatal screening should be performed using the opt-out approach
  - General consent for medical care should be sufficient to encompass consent for HIV screening

Objective

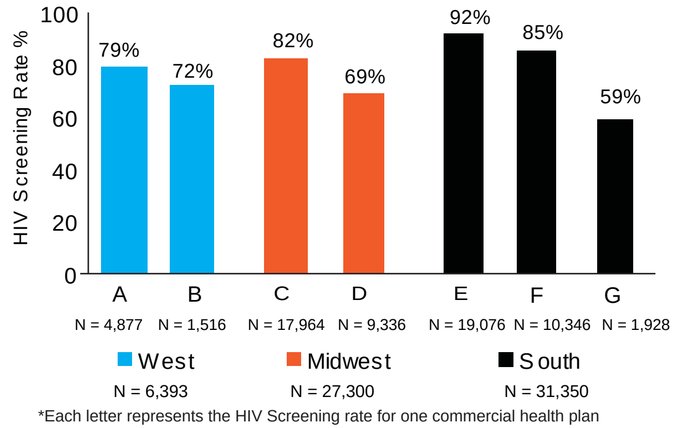
- Our object was to assess prenatal HIV screening rates among commercially insured women and to investigate the correlation of screening rates to regional HIV/AIDS prevalence

Methods

- **Data Set**
  - 2006 administrative claims data for 7 US health plans
  - Data set consists of approximately 7.5 million insured lives
  - 2 Plans located in West, 2 in Midwest, 3 in South regions of US
  - Health plan enrollment represents privately insured population, with approximately 70% from a Preferred Provider Organizational (PPO) setting, and 30% from other settings such as HMO
    - PPO settings allow more self-directed care, but reimburse at higher rates for providers who are in-network
    - In HMO settings, primary care physicians generally act as gate-keepers to direct medical services
- **Study Sample** (n = 65,043)
  - *Inclusion Criteria*: Consisted of all women who delivered an infant via vaginal delivery or cesarean section during the 2006 calendar year, and who were continuously covered by insurance for 365 days prior to the date of delivery
  - *Exclusion Criteria*: Women who had a diagnosis or claim that would indicate presence of HIV or AIDS any time in the member's history prior to the 10 months before the date of delivery
- **Assessment of Screening**
  - Assessed rate of screening for HIV, including HIV rapid tests, during the 10 month period prior to the date of delivery (inclusive of delivery date)
  - Assessed correlation between number of persons living with HIV/AIDS at the regional level with the regional level of prenatal HIV screening

Results

Figure 1. Prenatal HIV Screening Rate by Plan*



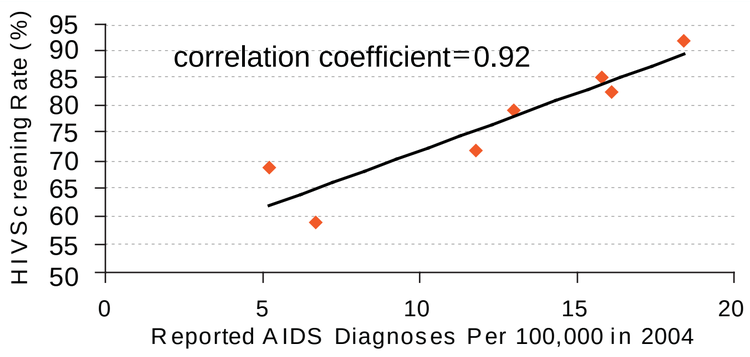
*Each letter represents the HIV Screening rate for one commercial health plan

Table 1. Sociodemographic Characteristics of Cohort Population by Region*

Variable	Midwest	West	South
Mean age (SD)	31.7 (5.4)	29.5 (6.4)	30.2 (5.8)
Median family income	$63,497	$40,485	$50,684
Education: % less than 9th grade	5.86%	9.5%	9.4%
Education: % high school grad or GED	36.1%	39.5%	39.4%
Education: % college and above	58.1%	51.0%	51.2%
Total Observations	27,300	1,516	31,350

*Regions defined per the 2000 U.S. Census designations

Figure 2. Correlation Between Plan-Level prenatal Screening Rate and Statewide Adult/Adolescent AIDS Cases per 100,000[a]



a. Source: Centers for Disease Control and Prevention. AIDS cases, by geographic area of residence an metropolitan statistical areo of residence, 2004. HIV/AIDS Surveillance Supplemental Report, 2006.(No.2)

Table 3. Correlation between Statewide AIDS statistics and Prenatal HIV Screening

Population	Statistic	Correlation Coefficient
All Adults and Adolescents	State-wide AIDS Cases Reported 1981-2004	0.72
	State-wide AIDS Cases Reported in 2004	0.75
	State-wide Cases Reported per 100,000 in 2004	0.92
	State-wide AIDS prevalence as of 2004	0.73
Female Adults and Adolescents Only	State-wide AIDS Cases Reported 1981-2004	0.74
	State-wide AIDS Cases Reported in 2004	0.75
	State-wide AIDS prevalence as of 2004	0.74

Conclusions

- **CDC guidelines regarding prenatal HIV screening did not seem to be systematically implemented for commercially insured women in all health plans**
- **Large variations in screening were seen across geographic regions and screening rates correlated strongly with HIV/AIDS prevalence**
- **Interventions by commercial health plans to improve HIV screening as part of prenatal care will contribute to achieving universal routine HIV screening nationwide**

Acknowledgements

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