



Abstract 01-S04.01 Figure 1

adolescent HIV infection and (i) maternal mortality, (ii) adolescent sexual behaviour, and (iii) chronic illness.

**Results** There were 990 males and 972 females aged 15 to 17 years included in the cohort. Mothers of HIV positive adolescent males were more likely to be deceased than those of HIV negative males (RR 2.72,  $p < 0.001$ ). Mothers of HIV positive females were not more likely to be deceased, but were more likely to be HIV positive if still alive (RR 3.68,  $p < 0.001$ ). Among males there was no association between having had sex and HIV status. Sexually active females were more likely to be HIV positive (RR 2.44,  $p = 0.042$ ). During the period that adolescent prevalence increased, the proportion of adolescent males who reported having had sex reduced from 14% to 8% ( $p < 0.001$ ), and did not change in females. HIV positive adolescents were more likely to report recurring sickness or chronic illness, indicative of late-stage HIV infection.

**Conclusions** Increasing HIV prevalence in adolescent males cannot be explained by a rebound in sexual risk behaviour and is likely attributable to long-term survivors of perinatal HIV transmission. Among females, both perinatal and sexual transmission account for adolescent HIV infections. These findings question the interpretation of HIV prevalence in young people as an indicator of recent trends in HIV incidence. They suggest an urgent need to prevent onward HIV transmissions by perinatally infected adolescents and the expansion of HIV testing and treatment to include young people.

# 01-S04.02 REGIONAL HIV SURVEILLANCE OF YOUTH MSM THROUGH MULTILEVEL ANALYSIS OF RDS STUDIES IN LATIN AMERICA

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**Background** Men who have sex with men (MSM) are the population most affected by HIV in Latin America (LA). Youth MSM (YMSM) are of particular interest given potentially greater levels of risk behaviour and as a barometer of recent epidemic dynamics. Yet single MSM studies lack sufficient sample size to characterise YMSM so that HIV prevalence and variation among YMSM within LA is unknown.

**Methods** We developed a multilevel statistical framework to borrow strength across recent (2006–2009) respondent-driven sampling

(RDS) studies with similar survey methodologies to permit characterisation of HIV prevalence and risk factors among YMSM in LA and comparisons across cities. Data from participants aged 18–24 years tested for HIV in MSM studies in nine high-population cities in Argentina, Bolivia, Costa Rica, El Salvador and Honduras (N=1410) were pooled. Weights incorporating personal network and population sizes adjusted for selection probability. Logistic, multi-level models identified correlates of HIV infection, including city-level fixed effects and accounted for intraclass correlation within recruitment chains.

**Results** HIV prevalence was 4.6% (95% CI: 3.2% to 6.5%) in the pooled sample and varied significantly across cities from 2.7% in Buenos Aires, Argentina to 9.3% in San Pedro Sula, Honduras. Samples varied ( $p < 0.05$ ) in terms of completion of secondary education (69.6%–100.0%), gay (range 2.5%–77.5%) and bisexual self-identity (18.8%–97.6%), past-year drug use (5.9%–64.8%), condom use at last anal sex (26.6%–72.7%) and other risk behaviours, knowledge of HIV prevention and transmission (26.4%–71.9%) and lifetime HIV testing (28.7%–59.2%). In multivariate analysis, syphilis infection (adjusted OR [AOR]=2.5), aged 23–24 years (vs 18–22) (AOR=2.2), past-year crack/cocaine use (AOR=2.2) and bisexual self-identity (AOR=0.5) were associated with HIV infection. Significant city effects for Salvador, El Salvador and Santa Cruz, Bolivia persisted net of individual-level differences.

**Conclusions** Formal comparisons of HIV burden and risk differences among cities can be achieved through multilevel analysis. HIV prevalence, drug and sexual risk behaviours, and low HIV testing among YMSM in LA are considerable and vary substantially within the region. The need for prevention among YMSM in LA is urgent and must address substance abuse, STI and be tailored to local context. Prevention should target younger YMSM as probability of infection rises rapidly with age.

# 01-S04.03 CO-INFECTION WITH SEXUALLY TRANSMITTED INFECTIONS AMONG CANADIAN STREET-INVOLVED YOUTH 2001–2006

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**Background** Canadian street-involved youth are at greater risk for sexually transmitted infections (STIs), due to their increased