Conclusions Rates of STIs are strongly associated with deprivation. Presentation of STI rates by ethnic categories should be adjusted to take into account the strong interaction between ethnicity and SED. While SED is a key determinant of ill health other cultural influences on sexual behaviour may contribute to STI risk exposure among ethnic groups. The high STI rates seen among black ethnic communities are likely to be the consequence of a complex interplay of cultural, economic and behavioural factors.

Epidemiology poster session 6: Preventive intervention

P1-S6.01 CONTROLLING THE HETEROSEXUAL HIV EPIDEMIC IN LOW-PREVALENCE DOMAINS

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Background HIV/AIDS has a manifest ability to swell to epidemic proportions and debilitate entire societies. Currently, the disease remains below the level of a generalised epidemic[1] in the USA and many other developed nations. Yet the number of reported HIV infections continues to expand steadily.[2] The same strains of virus affect all humans, but their ecology and epidemiology are markedly different in opposite-sex vs same-sex communities. Variance terms in the transmission equations of opposite-sex communities are reduced in same-sex communities, changing the dynamics of the disease and the interventions that could successfully control it.
Methods and Results We apply mathematical disease models of minimal complexity and higher complexity equation-free network models to show how (1) purely epidemiological forces are sufficient to explain the rapid spread of the virus through male same-sex communities, independent of usual assumptions of more dangerous or careless sexual practices in those communities[3], (2) the expansion tendencies of HIV can be counteracted in national testing and treatment programs aimed at breaking the spread of infection, and (3) simple behavioural changes resulting from increased awareness of infection through increased testing[4] can conceivably bring the infection under control in the heterosexual community, even without universal voluntary testing.[5]
Conclusions Much world effort properly is being focused where the disease is rampant, as in opposite-sex communities in many African nations[6] as well as male same-sex communities everywhere.[7] Critical attention must be continued in these sensitive populations, but attention throughout the general population is called for as an additional pre-emptive measure. Our results illustrate how expanded efforts in low-prevalence heterosexual communities throughout the developed world could moderate the expanding infection there, arrest it before it reaches run-away levels, and conceivably cause it to decline and eventually vanish from the general population.

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P1-S6.02 CONTRACEPTIVE DISCONTINUATION BY RURAL KENYAN WOMEN IN HIV DISCORDANT PARTNERSHIPS AFTER EXITING AN HIV PREVENTION TRIAL

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Background Women in biomedical HIV prevention clinical trials are frequently counselled to use effective contraceptive methods in order to avoid pregnancy during the study and consequent withholding of study products. Moreover, research study participants often have access to medical care at research clinics that might not otherwise be as readily available in their communities. We evaluated change in contraceptive use among women after exiting from a biomedical HIV prevention clinical trial in Kenya.
Methods The Partners in Prevention HSV/HIV Transmission Study enrolled HIV serodiscordant couples at 14 sites in East Africa and Southern Africa, including a site in Thika, Kenya. Participants were offered contraception free-of-charge at the research site during the clinical trial. Unblinding visits, at which the results of the trial were conveyed to participants, were conducted after the trial results were reported. Contraceptive use data were collected at the trial exit visit and at the later study unblinding visit.
Results Among 213 women from Thika in the trial, 114 returned for the unblinding visit, of whom 80 (70.2%) were HIV positive. The median time between exit and the unblinding visit was 1.11 years (ranging from 0.84—to 2.13 years). Non-barrier contraceptive prevalence (ie, use of oral, injectable, implantable contraceptives, intrauterine devices [IUD] or surgical) dropped from 62.3% to 47.4% ($p=0.01$) between exit and unblinding visits: from 70.0% to 53.8%, ($p=0.03$) among HIV positive women and from 44.1% to 32.4%, ($p=0.31$) among HIV negative women. However, the prevalence of IUD use among the HIV positive women increased from 3.8% to 20%, ($p=0.002$) during this period. Additionally, the proportion of women who were using condoms as their sole contraceptive method decreased, from 29% at study exit to 1.8% at the unblinding visit ($p<0.0001$), resulting in greater numbers of women who were not using any contraceptive method.
Conclusions There was a high rate of contraceptive discontinuation, both hormonal and barrier methods, after women exited from a biomedical HIV prevention trial. Discontinuation of contraception may reflect participant fertility desires after trial procedures are completed, or may reflect loss of clinical and counselling services available during the study. Innovative strategies to support the contraceptive needs of women after exiting HIV prevention trials are urgently needed.

P1-S6.03 WHY ARE SO MANY OF OUR BIOMEDICAL AND BEHAVIOURAL PREVENTION TRIALS FAILING?

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Background With a few exceptions, most biomedical and behavioural randomised, controlled prevention trials have failed to demonstrate efficacy. The recently reported iPrEx Trial on pre-exposure prophylaxis, the Thai prophylactic vaccine trials and the CAPRISA 004 trial of a female-controlled microbicide demonstrated only modest protection from HIV acquisition in high-risk populations, although both attained statistical significance. Understanding why most trials fail is important to designing trials that may have greater success in the field.
Methods We conducted a desk review of all Phase III biomedical and behavioural prevention trials reported in the past 10 years, including