

primary drug. However, in Greenland where chlamydial infections are extremely common and azithromycin is used liberally, mutations have been found in nearly 100% of the specimens tested.

At present, moxifloxacin is the only second line antibiotic that has a proven high efficacy against macrolide resistant *M. genitalium*. However, price and safety profile as well as the emergence of multi-drug resistant strains emphasises the urgent need for clinical trials with alternative drugs.

S.10 - HIV treatment as prevention

S10.1 PREDICTING THE SOCIAL AND BEHAVIOURAL CONSEQUENCES

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Recent data from HIV prevention trials conducted with sero-discordant couples suggest that HIV transmission drops when the infected individual is taking anti-retroviral medications (ARV). However, there is potential for unintended social and behavioural consequences of this and other interventions. Using the HIV treatment cascade as a lens, the review will cover individual and population-level data in HIV and STD prevention research with a view to identifying such consequences of intervention. Although the focus will be upon risk compensation as a potential consequence of HIV treatment, the review will also attend to potential positive social and behavioural consequences.

With respect to data from which to predict social and behavioural consequences, the majority of HIV and STD prevention interventions are conducted through small groups or on a one-to-one basis (e.g., in clinical settings), rather than at the population level. Most are concerned explicitly with risk reduction behaviours or address the behaviours essential to successful biomedical intervention. Population-level interventions are rarer, but do include communication campaigns and efforts to affect HIV or STD through social determinants. With respect to risk compensation, some studies explicitly address risk compensation, while others have sufficient behavioural follow-up data from which to measure it - the unintended measurement of unintended consequences. Fewer studies permit one to attribute effects to different potential *causes* of risk compensation, including risk homeostasis, overestimation of protection, or the intentional resumption of previous behaviour patterns.

The final part of the review is devoted to approaches that seek to minimise negative consequences or to maximise positive consequences, the latter arising when an intervention gives people hope where they once had little or none, and leading to further individual efforts to protect themselves and others (including changes in risk homeostasis). Positively-framed communication campaigns in particular may accelerate efforts and further population-level protective action and health promotion.

S10.2 DETERMINING UPTAKE, ADHERENCE, & PATTERNS OF ART USE AS PREVENTION

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Selected antiretroviral treatment (ART) of HIV reduces the concentration of virus in genital secretions. In one randomised controlled trial and most (but not all) observational studies ART reduced the sexual transmission of HIV. Some (but not all) ecologic studies suggests that broader, earlier antiviral treatment of HIV may reduce incidence of HIV in some (but not all) at risk populations. A compelling long-term study from South Africa demonstrated a direct relationship between

increased availability of ART in communities and decreased incidence of HIV. However, the maximal benefit of HIV "treatment for prevention" will likely require a programme of universal "test and treat", where most HIV infected patients are identified, linked to care, and treated very early in disease and for life. It seems likely that for maximal public health benefit ART must be started immediately regardless of CD4 count, and so the personal benefit and safety of immediate ART must be transparent. In some settings (especially where MSM are most likely to be infected) it may be necessary to find and treat people with acute and early HIV infection, a difficult challenge. To better understand the maximal benefits of this approach the early treatment of IDU and sex workers are also being studied, since these populations contribute to the spread of HIV. Community randomised trials designed to examine the feasibility of the implementation of treatment for prevention are underway. Treatment of a far greater number of people early in disease will be cost effective or cost saving in most settings, and can offer macroeconomic benefit as well. The mass treatment of HIV-the current centrepiece of HIV prevention-is best seen as a bridge to ever simpler therapy or a cure.

S10.3 MODELING THE EFFECT OF TAP ON THE HIV/AIDS EPIDEMIC

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Background The efficacy of ARV treatment that achieves viral suppression in dramatically reducing HIV infectiousness is proven. What is less clear is the implications for the best use of treatment in programmes, how treatment should and could be scaled up and what the effectiveness of treatment use in programmes will be across populations.

Methods Review of observational data on the impact of treatment programmes on HIV incidence and deaths and mathematical models exploring the impact of existing and proposed programmes.

Results Mathematical models show that HIV treatment can reduce HIV incidence, but this reduction depends upon who is treated, the success of the programme maintaining viral suppression in those treated and on patterns of risk behaviour. Observations of the impact of treatment programmes on the spread of HIV at a population level show mixed impacts with competing interpretations and implications for future programmatic development. Treatment guidelines emphasise the treatment of those who probably contribute least to onward transmission of HIV and more work is required to understand local epidemiology and design treatment programmes accordingly.

Conclusions Future, studies of the impact of treatment as prevention should concentrate on how to implement at scale treatment programmes and maximise reductions in incidence. Using HIV treatment as an HIV prevention intervention promises a major step forward in responding to the HIV pandemic, but taking success for granted could generate unsustainable programmes with perverse outcomes.

S.11 - National trends in sexual behaviour: USA, UK and Switzerland

S11.1 SEXUAL BEHAVIOUR IN BRITAIN IN THE NEW MILLENNIUM: A NEW ERA?

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Background In 2001, Britain's second National Survey of Sexual Attitudes and Lifestyles (Natsal-2) demonstrated increased sexual risk behaviour in contrast to Natsal-1, undertaken a decade earlier. STI diagnoses also increased between the mid-1990s and the