

Farewell

## The curtain call

Mohsen Shahmanesh

With this issue the curtain falls for the last time and as the lights go out I feel that constriction at the back of the throat. The outgoing team that managed *STI* can take some credit—not least because it operated as a team. Or, more accurately, teams: there were those who accepted the onerous role of associate editors in the first years and thought through the fundamental changes needed to prepare *STI* for the new age. This included a name change that made sense to the non-British and a less bilious cover. Then came the hanging committee whose members, spread over three countries, did much more than meet (or email) every 2 weeks.

We started on the strategic road from a “journal of fact” to a “journal of [expert] opinion”. For this we shamelessly pressured friends, acquaintances, and even total strangers to commission (gratis) review articles of various hues that we disguised under a range of titles: tropical medicine, research methodology, continuing medical education, public health, from bench to bedside, clinical knots, in practice, and update. We introduced humour and the personal and put Chester on the *STI* map. We entered the electronic age and began to explore the possibilities of the web for interactive education.

A central objective was to make *STI* more international and we asked Jonathan Zenilman to act as editor for the Americas. We went on to broaden the editorial board to levels seen only in very large circulation journals. We tried to marry the contradictory objectives of increasing impact factor and our obligation to resource poor countries by introducing the global view. We tried to make the editorial process more democratic and transparent by introducing a hanging committee and opening up its meetings to the readership. With submissions becoming fully electronic the reviewing

process is even more open to scrutiny. As the curtain falls we believe we have been partially successful. Without a curtain call we will never know.

Only partially though. As a doctor in training commented to me this summer, “your journal caters for writers, not the reader”. He (and it was a he) certainly has a point. Although we have made a few steps in the right direction, the road to making *STI* as readable as the *Economist* (or *Cosmopolitan*) is long and full of potholes. But now that we have the two versions of—a paper and electronic—*STI* there is a whole world to explore. And to create, as we hand over to Helen Ward and Rob Miller, themselves old hands.

I would like to end on a personal note. I learnt a lot. At dawn I learnt that there is a huge ocean of goodwill. People are prepared to give their most precious commodity, time. They accept cajoling, bullying, and begging with a smile. They might take their time to give up their time, but they give it generously in the end, without any obvious payback. Yes, it is increasingly difficult to get people to look your way when the pharmaceutical industry vies for the same pen waving golden handshakes. The wonder is how many people ignored the glitter and took our outstretched hand. And it was wonderful to work with so many young people—the team was young and we went for the young. A specialty that has such stores can never fail.

As dusk falls I will come to an even more personal note. Perhaps the best way to paint it is through the words of another exiled writer.

Don't knock any nails in the wall  
Just throw your coat on the chair.  
Why plan for four days?  
Tomorrow you'll go back home.  
Leave a little tree without water.  
Why plant a tree now?  
You'll pack your bags and be away  
Before it's as high as a doorstep.

Pull your cap over your eyes when people pass.  
What use thumbing through a foreign grammar?  
The message that calls you home  
Is written in a language you know.  
As whitewash peels from the ceiling  
(Do nothing to stop it!)  
So the block of force will crumble  
That has been set up at the frontier  
To keep out justice.

II  
Look at the nail you knocked into the wall:  
When do you think you will go back?  
Do you want to know what your heart is saying?  
Day after day  
You work for the liberation.  
You sit in your room, writing.  
Do you want to know what you think of your work?  
Look at the little chestnut tree in the corner of the yard —  
You carried a full can of water to it.<sup>1</sup>

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In exile it was friends, my colleagues, and the family hive, headed by Alex Williamson (QB) followed by Janet O'Flaherty, editorial assistants Kathryn Walsh, Michelle Dimler, and Camilla Spears (and others who fled during Kathryn's and Michelle's maternity leaves), and all-seeing technical editor Glyn Hughes, that allowed me to nail the wall. I will do so, metaphorically, with their pictures and those of all my Associate Editors and Hanging Committee members—all friends for keeps.

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HIV

## Prevention interventions for HIV positive individuals

R J DiClemente, G M Wingood, C del Rio, R A Crosby

### A public health priority

Historically, HIV prevention initiatives have focused almost entirely on encouraging "harm reduction" behaviour in diverse at-risk HIV seronegative populations. Consequently, a growing number of behavioural interventions have been tested and applied to reduce HIV associated risk behaviours across diverse at-risk groups.<sup>1,2</sup> In general, these programmes are theory driven and emphasise the development of cognitive, social, and technical competencies and skills associated with safer sex and drug use practices, and they attempt to modify individuals' perceptions of peer norms as supporting HIV preventive practices.<sup>2</sup> While designing effective risk reduction programmes for at-risk populations is a public health priority, one population that has been understudied and underserved with respect to sexual risk reduction prevention interventions is people living with HIV.

The HIV pandemic continues unabated. Globally, an estimated 36 million people are currently living with HIV.<sup>3</sup> In the developing world, recent advances in HIV therapy have markedly decreased HIV associated mortality and HIV is now viewed as a chronic disease.<sup>4</sup> However, unlike most other chronic diseases, HIV is also an infectious disease that can be transmitted to others. Thus, programmes specifically designed to address the needs of people living with HIV are essential for curtailing the HIV epidemic and should be a public health priority.<sup>5-9</sup> Indeed, it should be axiomatic that prevention does not stop with HIV infection. Quite the contrary, prevention efforts should be intensified for those individuals living with HIV as, ultimately, only infected individuals can transmit HIV.<sup>5</sup>

There are several compelling clinical and public health reasons to design and implement sexual risk reduction prevention programmes for HIV positive individuals. Firstly, there is cogent empirical evidence suggesting that sexual risk behaviours, although often reduced by many HIV positive individuals, remain prevalent. As many as one in three HIV infected people continue to practise unprotected anal and vaginal intercourse after knowing their HIV positive serostatus; intercourse often occurring with

partners with unknown serostatus or who are known to be HIV negative.<sup>10-18</sup> Other studies of STI acquisition among HIV positive women and men strongly suggest that risk behaviours do not necessarily abate with knowledge of an HIV positive serostatus.<sup>19-21</sup> For example, Zennilman and colleagues found similarly high rates of STIs among HIV seropositive and HIV seronegative patients subsequent to HIV post-test counselling.<sup>19</sup>

Secondly, the enhanced wellbeing associated with the improved health status of people who are receiving antiretroviral therapy may be associated with an increase in unprotected sexual intercourse which could place the individual at risk of acquiring STIs.<sup>22-24</sup> The recent resurgence of syphilis among HIV infected men who have sex with men in cities across the United States<sup>25</sup> may reflect an increase in risky sexual behaviours among HIV infected people.

Studies are needed to assess and quantify the interplay between the diverse array of biological, developmental, relational, social, psychological, cultural, and environmental influences that underlie the adoption and maintenance of sexual risk behaviour

Thirdly, a high prevalence and incidence of STIs has been observed among people living with HIV, though rates vary markedly across studies.<sup>18, 26-28</sup> While STIs are a serious health condition, they also act as cofactors amplifying HIV transmission dynamics between the HIV positive individual and their HIV negative partner, an interaction termed epidemiological synergy.<sup>29, 30</sup> There is now clear and compelling epidemiological evidence that STIs which cause either genital ulceration or mucosal inflammation increase the risk of HIV transmission.<sup>31-33</sup> The biological mechanisms through which STIs enhance HIV transmission dynamics are varied. STIs may increase the concentration of HIV in genital secretions,<sup>34</sup> the number of cells receptive to HIV,<sup>35</sup> or the number of receptors per cell.<sup>36</sup> Irrespective of the biological mechanism involved, ultimately STIs as cofactors are of critical importance as they

directly impact HIV transmission dynamics.

Finally, while the threat of exposure to and infection with other sexually transmitted pathogens is substantial, there is an additional emerging threat—namely, the threat of superinfection including infection with multidrug resistant HIV. Superinfection with multiple strains or subtypes of HIV has been documented.<sup>37-39</sup> Recurrent exposure to HIV among seropositive individuals who engage in high risk behaviours can have serious consequences, as superinfection is a necessary first step for viral recombination to occur. Recombination may produce more virulent viruses, drug resistant viruses, or viruses with altered cell tropism that may compromise the effectiveness of protease inhibitor combination therapy.<sup>38, 39</sup> Additionally, recombinant viruses and superinfection can accelerate disease progression and increase the likelihood of sexual transmission by increasing virus load in the blood and genital tract. For sex partners this can have serious adverse consequences, whether the partners are HIV seronegative or HIV seropositive, as infection with a multidrug resistant strain of HIV may markedly reduce the efficacy of antiretroviral medication, severely limiting effective therapeutic options. Thus, risky sexual behaviour among people living with HIV can adversely compromise their own health as well as pose a direct threat to the health of seropositive or seronegative sex partners.

The findings suggest that many HIV positive individuals who are engaging in risky sexual behaviour are at elevated risk of STI acquisition, exposure to other, more virulent drug resistant HIV, and risk infecting HIV seronegative sex partners. High risk sexual behaviour is not, however, random, uncontrollable, or inevitable. Many factors, individual (intrapersonal), social (interpersonal), cultural, and environmental contribute to an individual's propensity to engage in sexual risk behaviour. More importantly, from a prevention perspective, many of these factors are modifiable. However, to design optimally effective prevention programmes will require an in-depth understanding of the factors that reinforce individuals' risk taking behaviour and, more importantly, the factors that motivate individuals to adopt and maintain safer sex behaviours, such as consistent condom use.

A number of cross sectional studies and, to a lesser extent, prospective studies have observed the correlates and predictors of sexual risk and protective behaviour, STI prevalence, and STI incidence. However, additional studies will be needed to systematically assess and precisely quantify the interplay between the diverse array of biological, developmental, relational, social, psychological,

cultural, and environmental influences that underlie the adoption and maintenance of sexual risk or protective behaviour.<sup>12 16 40-47</sup> Of particular importance, studies will need to examine the effect of emergent risk factors, such as treatment with antiretroviral therapy, on the propensity of HIV positive individuals to engage in sexual risk behaviours.<sup>23 24</sup> Furthermore, the challenge will be to integrate these findings into effective prevention programmes. Thus, a public health priority is the development of a research infrastructure to conceptualise, stimulate, and support the continuum of basic behavioural and prevention intervention research for HIV positive individuals.

Although targeted prevention interventions designed to influence sexual risk behaviour are important, other prevention approaches should also be a priority. For example, enhancing access to treatment,<sup>48</sup> integrating prevention into clinical HIV case management,<sup>49 50</sup> and providing interventions within the family context<sup>51 52</sup> may be important. Structural interventions aimed at improving social and economic conditions<sup>53 54</sup> may also facilitate and motivate the adoption of risk reduction practices among HIV positive individuals. As HIV infection is as much a social condition as it is a medical condition, living with HIV impacts a person's physical, social, psychological, and emotional aspects of living.<sup>55</sup> This may be particularly burdensome for individuals whose lives are complicated by poverty, other chronic illnesses, discrimination, and unresponsive bureaucracies. These challenges are further compounded by the stigmatising nature of HIV disease. Thus, to address the myriad of factors that may influence risky behaviour, programmes should be targeted to multiple levels of intervention, from the individual level to the superstructural level.

Interventions, at multiple levels, need to recognise that HIV positive individuals are not a homogeneous population, but rather a mosaic of subgroups. These subgroups can be differentiated on a variety of dimensions, such as type of risk behaviours, sex, sexual orientation, race, geography, and norms and values. For prevention interventions to be maximally effective, greater specificity in tailoring interventions will be necessary to more effectively target the diversity of populations, taking into account sex, sexual orientation, cultural and religious background, ethnicity, and developmental level as well as the contextual environment in which the intervention will be implemented.

There is an urgent need to redress the chasm in prevention services for HIV positive individuals. This chasm may well be a consequence of an apparent apathy towards the HIV epidemic among

### Key messages

- (1) Emerging evidence suggests that person living with HIV may continue practising risky sexual behaviour. Thus, prevention efforts should be intensified for those individuals living with HIV as, ultimately, only infected individuals can transmit HIV
- (2) Accumulating empirical evidence regarding multidrug resistance, HIV superinfection, and the intimate connections between HIV and other STIs, strongly suggests that an increased focus on HIV prevention, directed towards those who are seropositive, is timely and thus represents a vital public health response to the AIDS epidemic. Fortunately, new evidence also provides guidance in the design and nature of behavioural interventions designed to promote safer sex practices among people living with HIV
- (3) In addition to prevention programmes that aim to directly intercede with people who are HIV seropositive, a number of potentially effective approaches may prove quite valuable. For example, evidence suggests that enhancing access to treatment, integrating prevention into clinical HIV case management, and providing interventions within the family context may be important. Structural interventions aimed at improving social and economic conditions may also facilitate and motivate the adoption of risk reduction practices among HIV positive individuals.

developed nations experiencing the transient relief brought about by the advent of effective antiretroviral therapies and the promise of an AIDS vaccine. Indeed, the phenomenon of people taking HAART and persisting in high risk sexual behaviours<sup>56</sup> suggests that the apathy may even exist among some of those most affected by the epidemic. Clearly, policy initiatives could be an important starting point in the dissolution of HIV associated apathy. For example, the recently published "CDC Prevention Strategic Plan Through 2005" has as one of its goals to "increase to 80% the proportion of HIV-infected people in the United States who are linked to appropriate prevention, care and treatment services by 2005."<sup>25</sup> If we do not accept the challenge and rise to the occasion by marshalling our fiscal resources and collective intellectual energy to provide the type and quality of services people living with HIV deserve and need, then we risk the health and wellbeing of millions who are currently infected and confront the challenges posed by HIV on a daily basis, as well as the untold number of people who will, unfortunately, become infected in the future. This is the time for a swift, determined, and coordinated response; our passivity will only result in another missed opportunity and, ultimately, perpetuate the HIV epidemic.

### CONTRIBUTORS

RD conceived the commentary, synthesised the relevant literature, and served as lead author; GW, refinement of ideas and concepts, synthesis of literature, manuscript preparation; CdR, refinement of ideas and concepts, synthesis of literature, manuscript preparation; RAC, synthesis of literature, manuscript preparation.

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# Chlamydia screening and sexual health

G J Hart, B Duncan, K A Fenton

## Are we failing heterosexual men?

Six years after publication of the first expert advisory recommendations<sup>1</sup> and subsequent calls for the introduction of a national chlamydia screening programme, tentative steps are at last being made towards its implementation. Much of the baseline research required to support the evidence base for programme development has been undertaken or is nearing completion. Other initiatives (for example, the PHLS chlamydia incidence and reinfection study) are just beginning. To date, research and planning have largely centred on women, justified on the basis that such a strategy is evidence based, cost effective, and pragmatic.<sup>2</sup> However, critics of the proposed policy have suggested that decisions about the inclusion or exclusion of men from any screening programme should be based on epidemiological evidence and that a useful strategy would be to collect such data *before* making recommendations about the future shape of any screening programme.<sup>3</sup> Failure to more fully include men in the formative research and development work has resulted in a missed opportunity to gather the epidemiological data needed to make evidence based decisions about men's participation. However, such evidence is now emerging. Results of the Department of Health funded chlamydia screening pilots in Portsmouth and the Wirral found a prevalence of up to 9% among young men attending youth centres and nearly twice this among men attending GUM clinics.<sup>4</sup> More recently, a community recruited probability sample survey of sexual attitudes and lifestyles of British adults aged 18–44, found more men (1 in 45) than women (1 in 66) were identified as *C trachomatis* positive through ligase chain reaction (LCR) testing of urine.<sup>5</sup> The study's highest age specific prevalence (3.0%) was found among men 25–34 years of age. Both studies, along with STI surveillance reports, confirm the substantial disease prevalence among community and GUM clinic populations of men and the marked heterogeneity in the prevalent pool of undiagnosed infection in the population. We now have evidence which questions the wisdom of the targeting of sexual

health screening by sex for chlamydia as men have an equal, or even greater, risk of infection than women.

It is therefore timely to again question a central plank of the programme, notably the failure to screen men, while opportunistically screening sexually active women under 25 (and women over 25 with a new sexual partner, or two or more partners in the past year) in family planning clinics and general practice. This approach has already been criticised, mainly from the perspective of the negative social and psychological consequences for women,<sup>6,7</sup> as well as its impact on effective STI prevention.<sup>8</sup> In the absence of good epidemiological data on men, many argued that to screen and treat one sex and not another would be ineffective in terms of eradication or control. This was last attempted in the 1860s through the Contagious Disease Acts, which mandated that women in English ports and garrison towns could be subjected to enforced sexual health screening, while their sexual partners (sailors and soldiers) were treated only on presentation with symptoms. However, it was the availability of effective antimicrobial therapy, screening and treatment for symptomatic individuals and proactive partner notification, freely administered to both men and women, that led to the substantial declines in syphilis rates in the 1950s.<sup>9</sup>

**If all heterosexual men attending GUM clinics were offered screening for chlamydia we would succeed in reaching a large sexually active population**

It has been argued that the failure to address the sexual health needs of heterosexual men is a human rights issue,<sup>10</sup> but even from the perspective of women's health, the logic of reducing the transmission of sexual pathogens by screening and treating men is persuasive. As currently envisioned, chlamydia screening is essentially a secondary prevention strategy for women as it seeks to identify and treat undiagnosed prevalent infection and its attendant complications. Primary prevention in women, in which the risk of acquiring the infection

is reduced, is best achieved by reducing disease prevalence in men.<sup>8</sup> The contribution of heterosexual men to STI transmission appears to be overlooked continually, not only the CMO's report,<sup>1</sup> but also in the proposed sexual health strategy for England, which fails to identify any means by which heterosexual men can be targeted with sexual health services.<sup>11</sup> The proposed model of three levels of service provision in the strategy suggests that women are screened under level one, but refers to "invasive" STI testing for men only as a subset of level two service (the screening of women is not described as invasive). Once again, chlamydia screening is largely concerned with women, with proposals to introduce screening among those seeking termination of pregnancy and women attending for their first cervical smear. The strategy also perpetuates the invisibility of heterosexual men as a category: there is not one reference to this group in the entire report. "Young men" are mentioned, but this is in relation to interventions to encourage them to use sexual health services. Although the strategy aims to be evidence based, this does not accord with the epidemiology of bacterial STIs: the highest incidence of diagnosed chlamydia is in men aged 25–34, twice the rate of that of younger men aged 16–24.<sup>12</sup>

In general then, heterosexual men appear to be getting a raw deal when it comes to STIs.<sup>13</sup> More specifically, they are largely ignored in the campaign to reduce the incidence of chlamydia. The CMO's report recognised the difficulty of accessing heterosexual men, and there are well established sex differences in health seeking behaviour, with men less likely to use primary healthcare services than women.<sup>14,15</sup> There is a dearth of literature on the factors associated with men's reluctance to access sexual health services, and a recent systematic review identifies few successful sexual health interventions for heterosexual men.<sup>16</sup> However, this has been accepted as a reason not to screen, rather than as an opportunity to explore the probable complex factors involved in men's sexual health decision making.

On closer inspection, many of the assumptions informing the report are overstated. The difficulties of accessing healthy young men through general practice certainly warrant further investigation. The 1998 general practice survey found that 71% of men aged 18–44 had visited a general practitioners in the past year, which indicates that men are contactable through general practice.<sup>17</sup> Men made 80 000 visits to family planning clinics in 1999–2000.<sup>11</sup> Rates of GUM clinic attendance among men are equal to those for women.<sup>5</sup> If all of these men were offered screening for chlamydia, close on the heels of a publicity campaign, we would succeed in reaching a

large sexually active population of heterosexual men. This could be facilitated by increased use of urine testing in place of invasive techniques.

While research into the psychosocial factors involved in men's sexual health behaviour is in its infancy, studies have demonstrated that public understanding of the causes and consequences of chlamydia is very poor.<sup>18</sup> Men in particular need to be informed about what it is, how they could contract it, how its transmission is prevented, and the ease with which it is treated. Ideally this would involve a multimedia campaign of television, radio, poster, and magazine advertising for men and women. *Rugby World* was happy to take a Health Education Authority advertisement targeting bisexual men at the height of the AIDS scare in the early 1990s, so it and other "male interest" magazines should find chlamydia sexual health promotion for heterosexual men uncontroversial.

Finally, innovative outreach strategies may be needed to reach men who are less likely to use health services, or those in whom disease prevalence is particularly high. Ethnic variations in the prevalence of chlamydia and other bacterial STIs is well documented.<sup>19, 20</sup> Culturally appropriate methods of population based screening, targeting both men and women in high incidence areas, should be piloted. The widespread availability of urine based nucleic acid amplification tests should mean that the hitherto unthinkable becomes increasingly possible: mobile clinics visiting further education colleges in London, Birmingham, and Manchester, as well as parking on street corners and in busy high streets. The same applies to targeting young men at football matches, in army camps, police and fire brigade training schools, and predominantly male work places. Occupational health screening remains an area requiring further assessment for feasibility. Men may be more likely to access an "information service" than a "helpline"; they may be relatively unconcerned about contraception, but very interested in their own fertility.

Yet perhaps the biggest problem is not the practicality of screening and treating heterosexual men for chlamydia, but the quite unintentionally sexist mindset that resists the notion of submitting men to the same sexual health surveillance as women. Healthcare professionals, with perhaps the honourable exception of genitourinary physicians, fear the reaction of men to suggested sexual health

**Key messages**

- There is new evidence to suggest high rates of genital chlamydia infection in heterosexual men
- Current proposals for chlamydia screening do not include men. The recent sexual health strategy for England identifies no specific interventions for improved sexual health in heterosexual men. Both of these important policy documents perpetuate a situation in which men's sexual health needs are not addressed
- Opportunities do exist, particularly in primary care services, for the opportunistic screening of heterosexual men for *C trachomatis*
- Novel means of providing chlamydia screening and other sexual health services to men could be evaluated: in colleges, work, and leisure settings. Healthcare workers should confront their own concerns about offering these services to heterosexual men

screening, and are particularly concerned not to cause them offence. We really need to move beyond this mindset if we are to accept that men's contribution to the transmission of STIs is a serious public health issue, and we should face up to our own fears about talking to, and providing comprehensive sexual health care for, heterosexual men. By including men we make them partners in the control and eradication of sexually transmitted infections—part of the solution, rather than the problem.

**CONTRIBUTORS**

GH had the original idea for the editorial, wrote the first draft, and redrafted the final submission; BD and KF contributed further ideas for, and the writing of, each successive draft, including new information and references.

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