STI

Taking up the reins

H Ward, R Miller

New challenges, new opportunities

It is a challenging time to be taking up the reins of *Sexually Transmitted Infections*. After a prolonged period of decline, there are epidemics of bacterial STIs in the United Kingdom and Western Europe, including outbreaks of syphilis. HIV continues to escalate; the prevalence of HIV is escalating due to persistent or rising incidence combined with increased survival. Globally we face major epidemics of HIV in India and China that could rival that of sub-Saharan Africa.[1] For people with access to health care treatment is improving for viral infections, including HIV. This offers great hopes but is also placing complex demands on clinicians and patients, not least those of compliance and possible "treatment optimism."[2 3] And as soon as we get one step ahead of the bugs with drugs, accelerated resistance threatens these gains.

There are exciting developments in diagnostic techniques that increase sensitivity and specificity, identify subtypes, and may provide rapid answers in near patient tests. The impact of these advances is yet to be fully felt, and this issue of *STI* includes a number of articles on the clinical, epidemiological, and psychological implications of type specific screening for HSV antibodies[4–6] and on approaches to chlamydia screening in the community.[7–12]

In the United Kingdom there are particular challenges in relation to the delivery of sexual health care, with demand outstripping capacity for services. The roles of all professionals within the field of sexual health and HIV is changing, with more nurse led patient care, and an emphasis on networks of care that include a bigger role for the primary care team. Such changes require careful governance of clinical medicine, an issue that also affects clinicians in the United Kingdom, who will be required to demonstrate ongoing competence through a revalidation process.

Keeping up with all these developments is difficult but essential, and we think that *Sexually Transmitted Infections* is already a useful tool for practitioners. In taking on the roles of joint editors we hope that we can continue to improve the journal and make it even more relevant and useful.

We see the major role of the journal as providing the evidence base, in a digestible form, to inform practitioners, trainees, and researchers in our field. In addition to publishing peer reviewed papers, we aim to have more systematic reviews, state of the art leading articles, and regular reports on trends in the epidemiology of STI and HIV. Taken together these will enable readers to keep up to date with broad developments as well as their particular interests. To promote the educational side of the journal we hope to link key review articles or commentaries, some with linked case reports, to online CME activities, and will work closely with the MSSVD/AGUM societies. Over time this will build into a bank of material that should be useful for practitioners and those in training.

We move into the leadership of this journal at a time of rapid change in publishing. The electronic version of *STI* is popular, and allows much wider access to our material than in the past, including free access for people in resource poor countries. It also allows us to make available material from research papers, such as questionnaires or detailed tables, which would be too detailed for most readers yet of interest to some. In the near future we may be publishing papers on the website as soon as they are accepted, thereby reducing the frustrating delays between acceptance and publishing dates. Some people will be excited by the possibility of downloading contents to portable electronic devices, others will pale at the thought!

Our predecessor, Mohsen Shahmanesh, wrote in his final editorial that a young colleague felt the journal sometimes served the needs of authors rather than readers. Mo moved the journal a long way towards being a more accessible and lively journal, and we hope to continue that journey, and ensure that we provide something that you, our readers, find useful and enjoyable. Let us know what you think!

Sex Transm Infect 2003;**79**:2

Authors' affiliations
H Ward, R Miller, Editors, *STI*;
mdimler@bmjgroup.com

REFERENCES

1 **UNAIDS/WHO**. *AIDS epidemic update, December 2000*. UNAIDS/02.46E, 2000.
2 **Kalichman SC**, Rompa D, Austin J, *et al*. HIV treatment adherence and unprotected sex practices in people receiving anti retroviral therapy. *Sex Transm Infect* 2003;**79**:59–61.
3 **Stephenson JM**, Imrie J, Davis MMD, *et al*. Is use of antiviral therapy among homosexual men associated with increased risk of transmission of HIV infection? *Sex Transm Infect* 2003;**79**:7–10.
4 **Narouz N**, Allan PS, Wade AH, *et al*. Genital herpes serotesting: a study of the epidemiology and patients' knowledge and attitudes among STD clinic attenders in Coventry, UK. *Sex Transm Infect* 2003;**79**:35–41.
5 **Green J**, Ferrier S, Kocsis A, *et al*. Determinants of disclosure of genital herpes to partners. *Sex Transm Infect* 2003;**79**:42–4.
6 **Fisman DN**, Hook EW, Goldie SJ. Estimating costs and benefits of screening monogamous, heterosexual couples for unrecognised infection with herpes simplex virus type 2. *Sex Transm Infect* 2003;**79**:45–52.
7 **Pimenta JM**, Catchpole M, Rogers PA, *et al*. Opportunistic screening for genital chlamydial infection. I: Acceptability of urine testing in primary and secondary healthcare settings. *Sex Transm Infect* 2003;**79**:16–21.
8 **Pimenta JM**, Catchpole M, Rogers PA, *et al*. Opportunistic screening for genital chlamydial infection. II: Prevalence among healthcare attenders, outcome, and evaluation of positive cases. *Sex Transm Infect* 2003;**79**:22–7.
9 **Catchpole**, M Robinson A, Temple A. Chlamydia screening in the United Kingdom. *Sex Transm Infect* 2003;**79**:3–4.
10 **Mehta S**, Shahmanesh M, Zenilman JM. Spending money to save money. *Sex Transm Infect* 2003;**79**:4–6.
11 **Bloomfield PJ**, Steiner KC, Klausner JD, Repeat chlamydia screening by mail, San Francisci, California. *Sex Transm Infect* 2003;**79**:28–30.
12 **Williams HM**, Tabrizi SN. Adolescence and other risk factors for Chlamydia trachomatis genitourinary infection in women in Melbourne, Australia. *Sex Transm Infect* 2003;**79**:31–4.

Chlamydia screening

Chlamydia screening in the United Kingdom

M Catchpole, A Robinson, A Temple

Four years on

It is now 6 years since the randomised controlled trial by Scholes *et al* demonstrated that a significant reduction in the incidence of pelvic inflammatory disease could be achieved through active case finding[1] and management of genital chlamydial infection among women. It is 4 years since the publication of the report of the chief medical officer of England's expert advisory group on *Chlamydia trachomatis*,[2] which concluded that "the evidence supports opportunistic screening of sexually active women aged under 25 years, especially teenagers," and over 2 years since the Scottish Intercollegiate Guidelines Network recommended that "opportunistic testing could be considered for women younger than 25 years and sexually active."[3] Expert opinion in the United States is also in favour of screening for genital chlamydial infection, with a recommendation in the 2002 sexually transmitted diseases treatment guidelines that "Sexually active adolescent women should be screened for chlamydial infection at least annually, even if symptoms are not present. Annual screening of all sexually active women aged 20–25 years is also recommended, as is screening of older women with risk factors."[4]

In the United States the CDC guidelines have been translated into action, with screening for genital chlamydial infection implemented across all states, with well documented evidence of the effectiveness of large scale screening programmes in reducing chlamydia prevalence in areas where this intervention has been in place for several years.[5] Similarly, a national programme of active case finding, or screening, for genital chlamydial infection in Sweden has been associated with dramatic reductions in the incidence of that infection and its sequelae.[6]

Against this background the first pilot of opportunistic screening of sexually active young women in the United Kingdom (published in this issue of *STI*),[7 8] has shown that screening is feasible and acceptable, achieving high levels of population coverage. So are we now closer to a national programme of screening for genital chlamydial infection in the United Kingdom? The consultation paper on the government's national sexual health and HIV strategy for England included a commitment to roll out national screening for chlamydia from 2002, although it was suggested that this would be limited to selected groups of young women in the first instance.[9] The recently published implementation action plan for the sexual health and HIV strategy[10] confirms funding for screening in 10 sites in England, although the invitation to tender to become one of these sites did note that "screening may not be rolled out in general medical services/general practice in the first instance due to logistical issues that need to be addressed."[11] This represents a move in the right direction but falls short of a national roll out of screening among the target group identified by the chief medical officer's expert advisory group and addressed in the pilot study.

> We now have sufficient evidence to be confident that the opportunistic approach to screening is acceptable and feasible

The national strategy implementation plan states that a UK national programme will be implemented after experts have assessed the results of the pilot screening programme as well as other relevant evidence. When the expert advisory group made its recommendations 4 years ago, there were important unanswered questions. But now that we have evidence from the pilot that the opportunistic approach is both feasible and acceptable, and more importantly will reach the target population, what further evidence is required before introducing national screening for all at-risk groups?

The most important issue that remains is deciding who should be screened, based on a reassessment of the costs and benefits of screening. The results of the pilot study will refine the economic model used to inform the deliberations of the CMO's expert advisory group, and results from the ongoing HTA funded chlamydia screening studies (ClaSS) and the Department of Health funded incidence/reinfection study will allow further refinements, including important information on reinfection rates. The high prevalence of infection found in both Portsmouth and Wirral suggests that the cost-benefit of universal screening of sexually active under 25 year olds is likely to be favourable, although a significantly lower prevalence was reported in the second national study of sexual attitudes and lifestyles.[12] This may reflect a different age structure of those sampled, but it will be important that the second wave of screening sites is used to validate the high prevalence rates reported in the pilot. It will be unfortunate if general practice is not included for this important reason.

Another important determinant of the cost-benefit analysis will be the offer of screening to men, where the evidence for effectiveness is currently lacking. The UK policy on this remains unclear; the implementation action plan for England aims to promote greater uptake of testing among men, but stops short of advocating formal screening. There is an urgent need to demonstrate that sufficient numbers of males, particularly those at highest risk of chlamydial infection, can be reached by, and will accept, offers of screening. It is argued that screening males is necessary because partner notification is presently not sufficiently effective, but it needs to be shown that the offer of screening to males will be any more effective. Whether or not screening of males is introduced, the high prevalence of infection in partners of screen positive women indicates that effective partner notification will remain an essential component of any chlamydial control programme.

A critical piece of information required to inform a re-evaluation of the cost-benefit of screening within the United Kingdom is the cost of screening attenders outside specialist services such as genitourinary medicine clinics and family planning clinics. Concerns about the possible cost of implementing screening in general practice may in part lie behind the Department of Health's reference to the need to address "logistical issues" surrounding screening in general medical services and general practice. Mainstreaming prevention and sexual health service provision, including chlamydia screening, in primary care settings is a central plank of the sexual health and HIV strategy in England. Achieving the mainstreaming of chlamydia screening at a cost that will ensure that the programme is cost effective is likely to be one of the first significant tests of the feasibility of not only opportunistic chlamydia screening, but also the strategy's implementation action plan in general. No one should underestimate the challenge of introducing a new screening programme into primary care, which in the United Kingdom mainly practises reactive care. Primary

care in the United Kingdom is currently grappling with the implementation of a series of national service frameworks covering, among others, coronary heart disease, cancers, and older people. There is concern that the sexual health and HIV strategy in England does not have the same status as the national service frameworks, and may therefore be seen as "optional," particularly as general practitioners may offer different levels of services under the proposed new general practice contract.[13]

Last, but not least, is the issue of what the long term benefits of screening will be. Since the natural history of untreated asymptomatic genital chlamydial infection is not known, and is not amenable to ethical study in humans, we have to assume that it is not significantly different from that of untreated symptomatic infection. What we do know is that studies of women with laparoscopically proved pelvic inflammatory disease (PID) have found evidence of *Chlamydia trachomatis* infection in 14%-65%, with studies in the United Kingdom most commonly reporting a detection rate of around 40% in such women.[14] Although these retrospective studies cannot prove causality, it seems reasonable to assume that many of the *C trachomatis* infections contributed to the tubal damage. It has also been reported that about 20% of women referred to infertility clinics have tubal damage that is thought to be due to infection, the most common aetiology of which is likely to be *C trachomatis*.[15] There is also the possibility that reducing the incidence of genital chlamydial infection will have a beneficial effect on rates of genital tract neoplasia.[16]

With the publication of the results of the first pilot of opportunistic screening for genital chlamydial infection, together with the demonstration of effectiveness of screening from other countries, we now have sufficient evidence to be confident that the opportunistic approach to screening is acceptable and feasible, and will result in a reduction in the prevalence of chlamydial infection. Further information is needed which will inform the costs and benefits of national screening. However, it is important at this stage that the roll out to further pilot sites includes screening in the primary care setting and general practice in particular. If roll out in these, or other settings, needs further discussion between policy makers and health professionals it must happen soon or else the major advantage of the UK approach to opportunistic screening will be jeopardised.

Sex Transm Infect 2003;**79**:3–4

Authors' affiliations
M Catchpole, Public Health Laboratory Service, 61 Colindale Avenue, London NW9 5EQ, UK; mcatchpole@phls.org.uk
A Robinson, Mortimer Market Centre, off Capper Street, London WC1E 6AU, UK
A Temple, University of Aberdeen, Aberdeen Maternity Hospital, Foresterhill, Aberdeen AB25 2ZD, UK

REFERENCES

1 **Scholes D**, Stergachis A, Heidrich F, *et al*. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. *N Engl J Med* 1996;**334**:1362–6.
2 **Chief Medical Officer's Expert Advisory Group**. *Main report of the CMO's Expert Advisory Group on Chlamydia trachomatis*. London: Department of Health, 1998.
3 **Scottish Intercollegiate Guidelines Network**. *Management of genital Chlamydia trachomatis infection*. Edinburgh: SIGN Secretariat, Royal College of Physicians, March 2000.
4 **Centers for Disease Control and Prevention**. Sexually transmitted diseases treatment guidelines 2002. *MMWR* 2002;**51(No RR-6)**:32.
5 **Centers for Disease Control and Prevention**. *Sexually Transmitted Disease Surveillance 2000 Supplement, Chlamydia Prevalence Monitoring Project*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, November 2001.
6 **Kamwendo F**, Forslin R, Bodin L, *et al*. Programme to reduce pelvic inflammatory disease—the Swedish experience. *Lancet* 1998;**351 (suppl iii)**:25–8.
7 **Pimenta JM**, Catchpole M, Rogers PA, *et al*. Opportunistic screening for genital chlamydial infection. I: Acceptability of urine testing in primary and secondary healthcare settings. *Sex Transm Infect* 2003;**79**:16–21.
8 **Pimenta JM**, Catchpole M, Rogers PA, *et al*. Opportunistic screening for genital chlamydial infection. II: Prevalence among healthcare attenders, outcome, and evaluation of positive cases. *Sex Transm Infect* 2003;**79**:22–7.
9 **Department of Health**. *The national strategy for sexual health and HIV*. London: DoH, 2001. Available at www.doh.gov.uk/nshs/bettersexualhealth.pdf
10 **Department of Health**. http://www.doh.gov.uk/sexualhealthandhiv/pdfs/77007betterpresersex.pdf
11 **Department of Health**. Sexual health and HIV strategy: chlamydia screening. Letter to Chief Executives of health authorities and primary care trusts. http://www.doh.gov.uk/chlamydscreen.htm
12 **Fenton KA**, Korovessis C, Johnson AM, *et al*. Sexual behaviour in Britain: reported sexually transmitted infections and prevalent genital Chlamydia trachomatis infection. *Lancet* 2001;**358**:1851–4
13 **British Medical Association General Practice Committee**. Your contract, your future:General practice contract and explanatory notes from the GPC, April 2002. http://www.bma.org.uk/ap.nsf/content/Your+contract+your+future
14 **Simms I**, Stephenson JM. Pelvic inflammatory disease epidemiology:what do we know and what do we need to know? *Sex Transm Infect* 2000;**76**:80–7.
15 **Cahill DJ**, Wardle PG. Management of infertility. *BMJ* 2002;**325**:28–32.
16 **Anttila T**, Saikku P, Koskela P, *et al*. Serotypes of Chlamydia trachomatis and risk for development of cervical squamous cell carcinoma. *JAMA* 2001;**285**:47–51

Screening

Spending money to save money

S D Mehta, M Shahmanesh, J M Zenilman

Cost effectiveness analysis to advocate *Chlamydia trachomatis* screening

In the December issue of *STI*, Honey *et al* summarise and critically review studies of cost effectiveness analysis (CEA) of *Chlamydia trachomatis* screening to provide recommendations for future screening studies.[1] The authors conclude that screening is cost effective because future sequelae of untreated infection are prevented. They point out that evidence is limited for the probabilities of sequelae of untreated infection used in CEA modelling. A second issue revolves around diagnostic testing. Chlamydia screening services have expanded as a result of the introduction of non-invasive nucleic acid amplification testing (NAAT). However, we do not know whether the natural history of NAAT detected infections is the same as culture detected infections. NAATs are 30–40% more sensitive than culture for detecting chlamydia,[2 3] and it is unknown whether NAAT positive/culture negative infections are as likely to progress to pelvic inflammatory disease (PID). Citing results by Scholes *et al*,[4] Honey *et al* urge the conduct of further clinical trials to improve the accuracy and strength of evidence of the morbidity assumptions involved in CEA of chlamydia screening. The accuracy of this information is essential, as the probability of PID subsequent to untreated infection is central to the results and conclusions of a chlamydia screening cost effectiveness analysis. For example, Scholes's analysis at the Seattle managed care organisation, which demonstrated that enhanced chlamydia screening reduced PID incidence, used

enzyme immunoassay and culture technology—both of which are now becoming obsolete in clinical practice. If NAAT detectable, culture negative infections are not as transmissible, or do not progress to PID at a similar rate, increased testing and treatment costs would not be offset by increased benefit.

Economic modelling assumes rational behaviour on the part of the decision maker, meaning that decision makers act towards an objective.[5] The assumption of rational behaviour means that decision makers choose among competing alternatives.[5] When we urge expansion of chlamydia screening and additional funds, we are asking the medical decision makers to make trade-offs between health services in a system where resources are scarce.[6] When a healthcare intervention is labelled "cost effective" this generally implies that more money can be saved in healthcare costs than spent on a particular intervention. The quantitative presentation of spending money to save money provides a persuasive argument to implement or change healthcare policy, the targets of which are clinical and public health policy makers who choose the way in which money is spent to provide value.[6] Policy makers use CEA results to decide whether a difference in effectiveness—improved health outcomes—is worth the difference in cost. Therefore it is essential that the CEA methods and results applied to chlamydia screening be explicit in describing the populations affected, the morbidity averted, and monetary resources utilised. As Honey *et al* point out the weaknesses in the chlamydia assumptions modelled, this provides medical decision makers with the opportunity to disregard the proposed theoretical benefits of chlamydia screening in favour of other healthcare services.

Beyond summarising that chlamydia screening is unsurprisingly cost effective and pointing out that studies are needed to improve accuracy of morbidity assumptions, the review provides a template for chlamydia screening CEA in general. The authors review and score the articles using criteria for economic evaluation set forth by Drummond *et al*, providing an objective evaluation of the quality of the economic analysis. The US Public Health Service Panel on Cost Effectiveness in Health and Medicine, as reported by Gold *et al*,[7] developed explicit guidelines for the conduct of CEA in health and medicine. This comprehensive text reviews measuring costs and effectiveness, evaluating outcomes, time preference and discounting, framing the analysis, and presentation of results.[4] By giving attention to existing standards for economic analysis and issues specific to chlamydia screening, the review by Honey *et al* provides a framework for future investigators conducting chlamydia screening CEA, promoting uniformity of methods and presentation of results. This brings to light the need for standardisation and consensus regarding not only the conduct of the economic analysis and probabilities of untreated chlamydia sequelae, but also other issues pertinent to the results and conclusions of chlamydia screening CEA: outcome cost assumptions, sequence of outcomes, definition of effectiveness, and presentation of results.

Key message

Cost effectiveness analysis (CEA) can be a persuasive argument when we urge expansion of chlamydia screening. In addition to following CEA guidelines, we need to develop explicit guidelines for chlamydia screening CEA, with standardisation and consensus from experts in the fields of STD research, policy, and economics. Comprehensive attention to constructing and conducting chlamydia screening CEA will provide the strongest argument possible to advocate changing policy.

Four of the studies reviewed by Honey *et al* modelled direct healthcare and indirect costs. Indirect costs include lost income and productivity. These raise the questions of whether or not costs should include only direct medical costs, and under which circumstances direct non-medical and indirect costs should be included. Clearly, those analyses that do not include indirect costs will be more conservative in their results and conclusions. Furthermore, there is disagreement and lack of evidence regarding the sequence in which sequelae occur. The sequence in which the probability that advanced sequelae (chronic pelvic pain, ectopic pregnancy, infertility) occur subsequent to PID varies by study. Among the papers reviewed by Honey *et al*, Howell *et al* and Marrazzo *et al* applied these probabilities to all women who develop PID[8 9]; while the paper by Paavonen *et al* did not apply the probability of occurrence of advanced sequelae to women who had operative treatment for PID.[10] These advanced sequelae are costly and their inclusion or exclusion may affect the results and conclusions. Similarly, as Honey *et al* point out, the definition of the effectiveness unit (that is, the outcome measures) varied between studies—cases of PID prevented or cases of chlamydia detected and cured. The use of different effectiveness units may cause difficulty in comparing results of different studies. CEA results may be presented as average cost effectiveness, incremental cost effectiveness, or marginal cost effectiveness. When multiple screening strategies are being compared, it would be helpful to know which presentation is most useful to policy makers and researchers in the field.

Several guides for economic analysis discuss the relevance of analytic perspective to decision making,[6 7 11] as the monetary benefits of a chlamydia screening programme would accrue to the source responsible (payer) for the costs of the intervention and sequelae of untreated infection over the entire analytic horizon. It is not likely in the United States, where insurance is paid by the employer, for example, that a payer would be responsible for the costs of a woman and her family for 10 years (the time over which the full range of chlamydia sequelae are expected to occur). Therefore, CEA for chlamydia screening in the United States are conducted from the societal perspective to realise the prevented morbidity and associated monetary benefits. In contrast, healthcare expenditure in Great Britain largely takes the single payer perspective, as the National Health Service (NHS) provides primary and preventive care for all registered people. Therefore, the societal perspective CEA more accurately reflects the monetary savings that would accrue to the NHS through a cost effective chlamydia screening programme. However, even here, since budgets are allocated annually, even the proposed triannual budgeting will disadvantage NHS trusts which financially underwrite screening, as they are unlikely to "benefit" directly from the reduced long term complication rates.

Honey *et al* point out deficiencies in the availability and strength of evidence of the probabilities of sequelae of untreated chlamydia infection. By casting light on the quality of CEA in chlamydia screening, this review also reveals the need for accuracy, standardisation, and carefully drawn consensus by experts in the field for numerous other issues. There is an opportunity for health economists, healthcare policy makers, and STD researchers to form a consensus panel to develop guidelines for economic analysis of chlamydia screening programmes to comprehensively address each step involved in CEA of chlamydia screening. Comprehensive attention to constructing and conducting CEA will provide the strongest argument possible to advocate changing chlamydia screening policy, making it difficult to disregard the public health benefits of chlamydia screening based on methodological or analytical weaknesses.

Sources of funding: JMZ was supported by NIH grant K24AI01633.

CONTRIBUTORS

SM helped develop the focus of the article and wrote the first draft of the paper; MS helped

develop the focus of the article, assisted with the writing of the manuscript, and reviewed and revised the manuscript; JMZ helped develop the focus of the article, assisted with the writing of the manuscript, and reviewed and revised the manuscript.

Sex Transm Infect 2003;**79**:4–6

Authors' affiliations
S D Mehta, Boston University School of Medicine, Department of Emergency Medicine, Boston, MA, USA
M Shahmanesh, Whittall Street Clinic, Birmingham, UK
J M Zenilman, Johns Hopkins University School of Medicine, Department of Medicine, Division of Infectious Disease, Baltimore, MD, USA

Correspondence to: Jonathan M Zenilman, MD, 720 Rutland Avenue, Ross 1165, Baltimore, MD 21205, USA; jzenilma@jhmi.edu.

REFERENCES

1 **Honey E**, Augood C, Templeton A, *et al*. Cost effectiveness of screening for Chlamydia trachomatis: a review of published studies. *Sex Transm Infect* 2002;**78**:406–12.
2 **Schachter J**, Moncada J, Whidden R, *et al*. Noninvasive tests for diagnosis of Chlamydia trachomatis infection: application of ligase chain reaction to first-catch urine specimens of women. *J Infect Dis* 1995;**172**:1411–14.
3 **Young H**, Moyes A, Horn K, *et al*. PCR testing of genital and urine specimens compared with culture for the diagnosis of chlamydial infection in men and women. *Int J STD AIDS* 1998;**9**:661–5.
4 **Scholes D**, Stergachis A, Heidrich FE, *et al*. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. *N Engl J Med* 1996;**334**:1362–6.
5 **Henderson JW**. *Health economics and policy*. 2nd ed. Thomas Learning, South-Western; 2002:28.
6 **Eisenberg JM**. Clinical economics: a guide to economic analysis of clinical practices. *JAMA* 1989;**20**:2879–86.
7 **Gold MR**, Siegel JE, Russell LB, *et al*. *Cost-effectiveness in health and medicine*. New York: Oxford University Press, 1996.
8 **Howell MR**, Quinn TC, Gaydos CA. Screening for Chlamydia trachomatis in asymptomatic women attending family planning clinics: a cost-effectiveness analysis of three strategies. *Ann Intern Med* 1998;**128**:227–84.
9 **Marrazzo JM**, Celum CL, Hillis SD, *et al*. Performance and cost-effectiveness of selective screening criteria for Chlamydia trachomatis infection in women. Implications for a national chlamydia control strategy. *Sex Transm Dis* 1997;**24**:131–41.
10 **Paavonen J**, Puolakkainen M, Paukku M, *et al*. Cost-benefit analysis of first-void urine Chlamydia trachomatis screenin program. *Obstet Gynecol* 1998;**92**:292–8.
11 **Haddix A**, Teutsch S, Shaffer P, Dunet D, Churchill E, eds. *A practical guide to prevention effectiveness: decision and economic analyses*. Atlanta, GA: Centers for Disease Control and Prevention, 1994.

NEW STI ONLINE SUBMISSION AND REVIEW SYSTEM

We are pleased to inform authors and reviewers that *STI* is using a new online submission and review system. Developed by Highwire Press (CA, USA), *Bench>Press* is a fully integrated electronic system which utilises the web to allow rapid and efficient submission of manuscripts. It also allows the peer review process to be conducted entirely online. The aim, apart from saving trees, is to speed up the frequently frustrating progress from submission to publication.

Authors can submit their manuscript in any standard word processing software. Standard graphic formats acceptable are: .jpg, .tiff, .gif, and eps. (*nb. multipage powerpoint files are NOT acceptable)*. The text and graphic files are automatically converted to PDF for ease of distribution and reviewing purposes. Authors are asked to approve their submission before it formally enters the reviewing process. On approval by the authors, the submission is passed to the editor and/or reviewers via the web. All transactions are secure.

To access the system click on "SUBMIT YOUR MANUSCRIPT HERE" on the *STI* homepage: http://www.sextransinf.com/ or you can access *Bench>Press* directly at http://submit-sti.bmjjournals.com/.

We are very excited with this new development and I would encourage authors and reviewers to use the online system. Full instructions can be found on *Bench>Press and STI online*. Please contact Natalie Davies, Project Manager, ndavies@bmjgroup.com for further information.

PRE-REGISTER WITH THE SYSTEM

We would be grateful if all *Sexually Transmitted Infections* authors and reviewers pre-registered with the system. This will give you the opportunity to update your contact and expertise data, allowing us to provide you with a more efficient service.

Instructions for registering

1. Enter http://submit-sti.bmjjournals.com
2. Click on "Create a New Account" in the upper left hand side of the *Bench>Press* homepage
3. Enter your email address in the space provided.
4. Choose a password for yourself and enter it in the spaces provided.
5. Complete the question of your choice to be used in the event you cannot remember your password at a later time.
6. Click on the "Save" button at the bottom of the screen.
7. Check the email account you registered under. An email will be sent to you with a verification number and URL.
8. Once you receive this verification number, click on the URL hyperlink and enter the verification number in the relevant field. This is for security reasons and to check that your account is not being used fraudulently.
9. Enter/amend your contact information, and update your expertise data.