

Institution: University College London
Unit of Assessment: 2 - Public Health, Health Services and Primary Care
Title of case study: Improving policy for sexual and reproductive health
<p>1. Summary of the impact</p> <p>Research by Professor Judith Stephenson and colleagues at the UCL Institute of Women's Health into the effectiveness of chlamydia screening has led to guidance to health policy makers in the EU about national strategies for chlamydia control, and has influenced NICE guidelines on the subject. In particular, our work has informed debate on the value for money of the National Chlamydia Screening Programme (NCSP). Stephenson advised the National Audit Office on this topic, and a resulting report led to the NCSP focusing on chlamydia testing in sexual health services and primary care rather than screening in low risk groups. These changes are expected to make considerable cost savings to the NHS.</p>
<p>2. Underpinning research</p> <p>Our early research evaluated new molecular diagnostics for diagnosis of genital chlamydia infection (nucleic acid amplification tests) which compared favourably with the standard method (enzyme immunoassay) of the day [1]. We then examined the feasibility of patients taking their own samples (vaginal swabs) in a sexual health clinic compared with clinicians taking cervical samples and showed that patient-taken samples were acceptable to women and appropriately sensitive for the new molecular diagnostics [2]. We went on to show the feasibility of women and men taking their own samples outside the clinic setting in response to a screening invitation sent to their home address and posting the samples to a laboratory for chlamydia testing [3]. Together, these three studies, in addition to baseline prevalence studies from Natsal [see case study UCL02-JOH] were instrumental to the rapid expansion and uptake of chlamydia testing in England. At the same time, we made a strong case, based on review of the limited evidence base, for the cost-effectiveness of chlamydia screening to be evaluated through randomised trials before proceeding with implementation of a national screening programme [4].</p> <p>A systematic survey of chlamydia control activities in 29 European countries was carried out 2006-2008, funded by the European Centre for Disease Control and Prevention (ECDC). Stephenson collaborated with Professor Nicola Low (PI, Bern University) on designing the survey and led the work in the UK, including investigation of the National Chlamydia Screening Programme (NCSP) as a case study. The survey showed wide variation in the organisation of chlamydia control, with almost half of the countries reporting no organised activity and national control programmes in two countries. We outlined four levels for chlamydia control programmes: Level A primary prevention, Level B case management, Level C opportunistic testing, Level D screening programme and recommended a step-by-step approach to ensure that accurate STI prevention and patient management are in place before complex interventions such as screening are considered, particularly as evidence for the impact of level C and D programmes is lacking [5].</p> <p>The early research described above sparked considerable debate and in 2006, Low's team and Stephenson were commissioned by NICE to carry out a review of the effectiveness of chlamydia screening [6]. We included 91 studies (5 systematic reviews or guidelines, 10 randomised trials, 2 non-randomised trials, one time series and 73 prospective studies) and produced multiple evidence statements to inform the NICE guidance. We found a lack of evidence to support chlamydia screening in the general population aged less than 25 and called for high-quality trials of screening with clinical outcome measures to determine the balance and harms of chlamydia screening [7].</p>
<p>3. References to the research</p> <p>[1] Grun L, Tassano-Smith J, Carder C, Johnson AM, Robinson A, Murray E, Stephenson J,</p>

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Haines A, Copas A, Ridgway G. Comparison of two methods of screening for genital chlamydial infection in women attending in general practice: cross sectional survey. *BMJ*. 1997;315:226. <http://dx.doi.org/10.1136/bmj.315.7102.226>

- [2] Carder C, Robinson AJ, Broughton C, Stephenson JM, Ridgway GL. Evaluation of self-taken samples for the presence of genital *Chlamydia trachomatis* infection in women using the ligase chain reaction assay. *International Journal of STD & AIDS*. 1999;10(12):776-9. <http://dx.doi.org/10.1258/0956462991913538>
- [3] Stephenson J, Carder C, Copas A, Robinson A, Ridgway G, Haines A. Home screening for chlamydial genital infection: is it acceptable to young men and women? *Sexually Transmitted Infections*. 2000;76(1):25-7 <http://dx.doi.org/10.1136/sti.76.1.25>
- [4] Stephenson JM. Screening for genital chlamydial infection. *British Medical Bulletin*. 1998;54(4):891-902 <http://bmb.oxfordjournals.org/content/54/4/891.long>
- [5] Low N, Cassell JA, Spencer B, Bender N, Hilber AM, van Bergen J, Anderson B, Herrmann B, Dubois-Arber F, Hamers FF, van de Laar M, Stephenson JM. Chlamydia control activities in Europe: cross-sectional survey. *European Journal of Public Health*. 2012 Aug;22(4):556-61. <http://dx.doi.org/10.1093/eurpub/ckr046>
- [6] Low N, Bender N, Nartey L, Shang A and Stephenson JM. Effectiveness of Chlamydia Screening: Systematic Review. *International Journal of Epidemiology*. 2009;38(2):435-8. <http://dx.doi.org/10.1093/ije/dyn222>
- [7] Stephenson J. NICE guidance and the National Chlamydia Screening Programme. *Sexually Transmitted Infections*. 2007;83:170. <http://dx.doi.org/10.1136/sti.2007.025114>

4. Details of the impact

Our review of chlamydia control activities in Europe was commissioned by the European Centre for Disease Control and Prevention (ECDC) to inform development of its policy. The resulting policy document, ECDC Guidance on Chlamydia Control in Europe 2009 [a], states that the guidance was developed by a technical expert group using the evidence gathered in the EU report “Review of chlamydia control activities in EU countries” [b] and systematic review of the effectiveness of chlamydia screening [6, above]. It provides guidance to health policy makers in the EU about national strategies for chlamydia control.

The systematic review of chlamydia screening was commissioned by NICE to inform its guidance [c]. Our findings indicated that there was a lack of evidence from randomised trials to show the effectiveness of chlamydia screening and the final NICE Guidance made no recommendations about chlamydia screening except for more robust research to examine the effectiveness of different screening approaches [d]. This recommendation contributed to decisions to fund two large randomised trials – one in the Netherlands of a register based screening programme and one in Australia of an opportunistic screening programme. The research in the Netherlands concluded “*There was no statistical evidence of an impact on chlamydia positivity rates or estimated population prevalence from the Chlamydia Screening Implementation programme after three years at the participation levels obtained. The current evidence does not support a national roll out of this register based chlamydia screening programme*” [e]. The systematic review had a persistent influence on development of chlamydia screening policy nationally and internationally.

Our research into chlamydia screening had wide impact, as it contributed, through informed and constructive criticism, to public debate about the National Chlamydia Screening Programme (NCSP) in England and its future direction. Stephenson presented insights gained from the research to the annual NCSP meeting (2007) and to the Independent Advisory Group at the House of Lords (2008) [f]. She was among the experts who gave evidence at interview to the National Audit Office for their report on value for money of the NCSP (NAO 2009). She highlighted that

since the NCSP did not use unique identifiers or collect any clinical outcome data, it was not able to evaluate its aims. The NAO report cites both our review of chlamydia control activities in EU countries and the subsequent ECDC Guidance on chlamydia control in Europe [g]. It concluded that the delivery of the NCSP had not demonstrated value for money. In accordance with our research findings, it stated that *“due to uncertainties in the scientific evidence on chlamydia, the Department does not know how often infection leads to serious health problems and hence whether it is cost-effective to invest so much public money in tackling this problem.”* The NAO Report was swiftly followed by a highly critical report from the Public Accounts Committee (2009-2010) [h]. In response to this criticism, the NCSP focused on chlamydia testing in sexual health services and primary care and has ceased screening in low risk groups that identifies fewer positive cases [i]. These and other organisational changes are expected to substantially improve value for money. Between 2003 and 2009, c.£100m was spent delivering the programme [h] and cost savings on reconfiguration are expected to be considerable: *“The average cost per chlamydia screening episode (including follow up of positive clients, overheads and local coordination) was found to be £45... An estimated cost of £33 per screening episode should be achievable, as screening volumes increase, chlamydia screening is better integrated in all community sexual health pathways, sexual health networks develop and regions move to collaborative procurement”* [j].

While mathematical models tend to predict that screening will reduce the prevalence of infection, there is currently no empirical evidence from the NCSP to demonstrate a fall in prevalence. The latest (April 2013) update on the National Chlamydia Screening Programme acknowledges the gaps in current knowledge that our research highlighted and describes a new policy of re-focusing chlamydia testing within health services, moving away from population-based screening with coverage targets [k].

Reflecting on changes in chlamydia screening policy, Stephenson was invited to present a plenary debate at the world congress of sexually transmitted infections (Vienna, July 2013) on whether to abandon population based chlamydia screening of asymptomatic young women [l].

5. Sources to corroborate the impact

- [a] European Centre for Disease Prevention and Control (ECDC) Guidance. Chlamydia control in Europe (2009)
http://ecdc.europa.eu/en/publications/Publications/0906_GUI_Chlamydia_Control_in_Europe.pdf
- [b] European Centre for Disease Prevention and Control. Technical Report. Review of Chlamydia Control Activities in EU Countries (2008).
http://ecdc.europa.eu/en/publications/publications/0805_ter_review_of_chlamydia_control_activities.pdf
- [c] Review of evidence for the effectiveness of screening for genital chlamydial infection in sexually active young women and men (2006)
<http://www.nice.org.uk/guidance/index.jsp?action=download&o=43876>
- [d] NICE public health intervention guidance 3 (2006). One to one interventions to reduce the transmission of sexually transmitted infections <http://www.nice.org.uk/PHI003>
- [e] van den Broek IV, van Bergen JE, Brouwers EE, Fennema JS, Götz HM, Hoebe CJ, Koekenbier RH, Kretzschmar M, Over EA, Schmid BV, Pars LL, van Ravesteijn SM, van der Sande MA, de Wit GA, Low N, Op de Coul EL. Effectiveness of yearly, register based screening for chlamydia in the Netherlands: controlled trial with randomised stepped wedge implementation. BMJ. 2012 Jul 5;345:e4316. <http://dx.doi.org/10.1136/bmj.e4316>
- [f] Independent Advisory Group on Sexual Health and HIV Seminar: The Future of Chlamydia

Impact case study (REF3b)

Testing, Thursday 24 July 2008. Transcript available on request.

- [g] National Audit Office Department of Health - Young people's sexual health: the National Chlamydia Screening Programme.
<http://www.nao.org.uk/wp-content/uploads/2009/11/0809963.pdf> See reference 11, p.17.
- [h] Public Accounts committee – seventh report - Young people's sexual health: the National Chlamydia Screening Programme.
<http://www.publications.parliament.uk/pa/cm200910/cmselect/cmpublicacc/283/28302.htm>
- [i] National Chlamydia Screening Programme website
http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Aboutus/Features/DH_128779
- [j] Guidance for the commissioners on the cost of providing chlamydia screening in primary care and the community : a review of costs in practice across England in 2009
http://www.chlamydia-screening.nhs.uk/ps/resources/guidelines/NCSP_costing_guidance_Dec09.pdf
- [k] Presentation “An update on the National Chlamydia Screening Programme” 13th March 2013; slides available from <http://www.chlamydia-screening.nhs.uk/ps/resources.asp>
- [l] Debate programme available at
http://www.stivienna2013.com/index.php?option=com_content&view=article&id=68&Itemid=73