Screening for chlamydia

Information on prevalence and risks is insufficient for trials to inform policy

Many developed countries offer screening for *Chlamydia trachomatis* to young people, with the aim of controlling high rates of chlamydia infection and reducing the reproductive health risks associated with such infection. In England alone, more than £100m (€111m; $150m) has been spent on delivering screening since 2003. However, the benefits of screening are uncertain for many reasons, not least because evidence that screening reduces the incidence of pelvic inflammatory disease, which can lead to chronic pelvic pain, tubal factor infertility, and ectopic pregnancy, has been questioned because of "methodological inadequacies" in the trials carried out to date.1

In the linked study, the Prevention of Pelvic Infection (POPI) trial, Oakeshott and colleagues’ primary objective was to examine whether screening sexually active young women reduced the incidence of pelvic inflammatory disease.2 They tackled this important question by exploiting a window of opportunity that arose because the English national chlamydia screening programme, established as part of the strategy to improve sexual health in young people, was introduced in some areas before others.2 This enabled them to conduct a randomised controlled trial in parts of London where the screening programme was not yet available. The trial recruited more than 2500 female students and after the women had taken vaginal swabs to screen for chlamydia infection, the samples were randomised to either immediate testing and referral for treatment if positive or deferred testing at 12 months.

It is disappointing but not surprising that this study could not provide a clear answer as to whether screening is effective in reducing the incidence of pelvic inflammatory disease. The risk of pelvic inflammatory disease in women who were screened immediately was lower than in control participants (relative risk 0.57, 95% confidence interval 0.29 to 1.11) after adjustment for symptoms at baseline, but this reduction was not statistically significant. However, the study’s value lies in the insights it provides into the risks of acquiring pelvic inflammatory disease from chlamydia.

The justification for investing in chlamydia screening rests primarily on the assumption that pelvic inflammatory disease is common enough to constitute a public health problem, and that chlamydia is a major cause of the condition. However, estimates of its incidence vary greatly; in an audit of records from just one clinical centre, rates of diagnosis ranged from 0% to 5.7%.3 The authors of the POPI trial based their sample size on the assumption of a 3% incidence of pelvic inflammatory disease in the control group. However, the incidence of pelvic inflammatory disease was only 1.9% in the unscreened control women.

Despite achieving an impressive 94% follow-up, the study was not adequately powered to detect a statistically significant effect of screening, but in itself this suggests that the incidence of pelvic inflammatory disease in the population studied may be lower than previously estimated.

In the POPI trial most cases of pelvic inflammatory disease occurred in women who tested negative for chlamydia at baseline. The authors argue that this may be because chlamydia was acquired after screening in many women, particularly those at high risk of becoming infected (women reporting two or more sexual partners during the year), and they conclude that to prevent pelvic inflammatory disease in women at high risk of infection, screening should take place more than once a year. An alternative explanation may be that chlamydia was not the cause of pelvic inflammatory disease in those cases. Chlamydia infection increases women’s risk of pelvic inflammatory disease but may be responsible for a minority of cases only; other sexually transmitted infections and risky sexual behaviour independently increase the risk.4 The POPI trial assessed the effectiveness of one episode of chlamydia screening on reducing pelvic inflammatory disease and was not designed to measure any effect of other infections. When England’s national chlamydia screening programme is delivered as intended, chlamydia tests should be accompanied by sexual health advice and, after a positive result, by treatment of the current sexual partner. Therefore, it has the potential to confer greater benefit than screening alone by reducing the risk of other sexually transmitted infections and by reducing the overall prevalence of chlamydia.

The POPI trial suggests that the national screening programme can fulfil its potential if it is the subject of debate. According to a recent National Audit Office report, local areas deliver the programme in different ways with varying success, but, overall, the programme has not been delivered as intended. Forty per cent of young people did not receive safer sex advice when tested, 72% of areas failed to meet recommended standards for treatment of partners, and the proportion of young people tested by the programme fell short of target levels of coverage.5 Furthermore, international data cast doubt on the capacity of screening to reduce the prevalence of chlamydia. In Sweden and the United States, the proportion of screening tests with positive results fell initially after screening was introduced but has since increased.6,7

As the authors of the POPI trial point out, another trial of this nature is not feasible in England because the chlamydia screening programme is now available nationally. The study also illustrates the problems of obtaining the evidence that is required to inform policy in this controversial field.8 Without an improved understanding of the prevalence

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**Competing interests:** The author has completed the Unified Competing Interest form at www.icmje.org/coiDisclosure.pdf (available on request from the corresponding author) and declares: (1) no financial support for the submitted work from anyone other than her employer; (2) no relationships with companies that might have an interest in the submitted work in the previous three years; (3) no spouse, partner, or children with financial relationships that may be relevant to the submitted work; (4) an employer, was introduced in some areas before others. This enabled them to conduct a randomised controlled trial in parts of London where the screening programme was not yet available. The trial recruited more than 2500 female students and after the women had taken vaginal swabs to screen for chlamydia infection, the samples were randomised to either immediate testing and referral for treatment if positive or deferred testing at 12 months.

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Whether the national screening programme can fulfil its potential is the subject of debate. According to a recent National Audit Office report, local areas deliver the programme in different ways with varying success, but, overall, the programme has not been delivered as intended. Forty per cent of young people did not receive safer sex advice when tested, 72% of areas failed to meet recommended standards for treatment of partners, and the proportion of young people tested by the programme fell short of target levels of coverage. Furthermore, international data cast doubt on the capacity of screening to reduce the prevalence of chlamydia. In Sweden and the United States, the proportion of screening tests with positive results fell initially after screening was introduced but has since increased.

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Preventing obesity in primary schoolchildren

School based physical activity programmes are promising, but difficult to sustain

Childhood obesity is rapidly increasing worldwide and is associated with a higher risk of several health problems, as well as with being obese as an adult. Obesity is at least partly caused by an energy imbalance, which makes tackling unhealthy diets and low levels of physical activity in children key public health objectives. Physical activity in childhood has also been independently associated with health outcomes, so promoting physical activity probably has benefits beyond weight control. However, promoting physical activity in children has proved challenging, and we have little evidence available for effective strategies.

In the linked cluster randomised trial on bmj.com, Kriemler and colleagues evaluated a school based physical activity programme targeted at preventing excessive weight gain in Swiss primary schoolchildren. The multi-component intervention was conducted over one school year and focused on three main aspects: increasing the quality and amount of physical education, introducing short daily activity breaks during academic lessons, and providing children with daily physical activity homework. The strengths of the study include the high degree of implementation of the intervention, its high degree of integration into the school system, and the high quality evaluation conducted—something often lacking in previous research. The authors showed significant benefits on body fat, fitness, physical activity, and cardiovascular risk status.

Kriemler and colleagues’ findings support the results of a recent meta-analysis that showed a significant short term protective effect of school based interventions on childhood obesity. This has also been shown in a subgroup of five evaluations of interventions similar to those in the present study. Kriemler and colleagues add to this literature by applying a wide range of more precise measures in a well designed evaluation, which enables a better picture of the effects of the intervention to be created.

Wider implementation of this intervention may be possible, although it poses several challenges. Most importantly, it would require changes to the school curriculum. Although efforts are being made to lengthen the time allocated to physical education in school, providing physical education classes of 45 minutes and up to 25 minutes of activity breaks each day is quite a step away from the weekly two hours of physical education currently recommended in primary schools in the United Kingdom. It would substantially add to the school timetable. Although the acceptability of these additional lessons was high in Kriemler and colleagues’ study, it is unclear how feasible wider implementation would be. Further research into the feasibility and acceptability of such a strategy in different countries is needed.

This study provides an excellent example of the high quality evaluations needed to make advances in this field. However, it does have limitations, which need to be dealt with in future studies. Although the overall follow-up rate was high, less than 70% of children provided valid data on physical activity or the cardiovascular risk score, with attrition being particularly high in the control group. Moreover, the authors do not report a thorough process evaluation (a study of the potential implementation and feasibility of the intervention), which would have helped to shed light on potential challenges with implementation, the acceptability of the various components, and perceived effectiveness. This information could have helped inform future development and implementation of the intervention.

At this stage, Kriemler and colleagues report only the short term results. The few other studies that have included follow-up beyond the intervention showed no overall effect, suggesting that any improvements obtained are difficult to sustain. The important question is therefore how we can effectively change children’s physical activity behaviour. Kriemler and colleagues’ study, along with previous ones, shows that increasing “compulsory” activity at school increases physical activity in the short term. Continuing interventions for longer seems to be even more effective. Continual interventions throughout primary school and...
potentially secondary school may be the only way to increase physical activity and prevent obesity in the long term. However, the cost implications and health benefits of such a strategy are unclear because few studies have included a cost effectiveness evaluation and long term follow-up.

The effectiveness of a school based strategy in inducing long term behavioural change is doubtful. Removal of the intervention at any stage will require the children themselves to change their physical activity behaviour during and outside of school to maintain the higher activity level attained. Without teaching skills for behavioural change and involving family members, it is unclear whether school based interventions can be successful in the long term. Successfully tackling childhood obesity will require further research in these areas.


Where now for social care in England?
The groundwork is done, but the election will determine the outcome.

On 30 March 2010 the white paper, Building the National Care Service, was published.1 This followed the green paper, Shaping the Future of Care Together, which was published in July 2009.2 Both of these policy documents have sought to tackle the perceived inequities in the current provision of social care to adults. Two key factors combine to create the current “postcode lottery” of social care provision. Firstly, the nature and level of services provided vary locally because social care was originally conceptualised as distinct from the universalist ideals of the NHS, and local championing of services reflected local needs. Secondly, social care has never been free at the point of delivery like the NHS, and the system of charging and means testing varies, with local authorities charging as much (or as little) as deemed appropriate.3

To combat these established inequalities the white paper proposes the creation of a universal National Care Service (NCS) for adults that is based on integrating the diverse range of statutory and voluntary agencies involved in social care provision, with local authorities as the lead agency.4 This paper aims to bring about the most profound reform to the welfare state since the creation of the NHS in 1948. Adults with social care needs, regardless of where they live or the underlying reason for these needs, will have access to a free universal service, with standardised eligibility criteria for access to care, its type, level, and quality.

In driving the reform of the current system the importance of the obvious inequities in the daily experiences of service users and their families should not be underestimated. Service users are particularly worried about means tested and highly variable care charges. However, at national level there are concerns about the future funding of the adult social care

Under new proposals adults would have free and universal access to social care

Potential funding options for a social care system

• Self funding: no state support, with social care being paid for by individuals from their insurance or by direct payment out of savings or income
• Partnership: people would pay for their care as required but a specific percentage, for example 25%, of the costs would be met by the state, with this proportion being greatest for those who are least well off
• Comprehensive: as with the partnership scheme the state would contribute a proportion of care costs and this would be supplemented by an insurance scheme (paid in instalments, before or after retirement or after death—the “death tax”) to cover remaining care costs
• Compulsory insurance: all people over retirement age deemed of sufficient means should contribute to a state insurance scheme to fund social care provision
• Direct taxation: the tax system would fund all social care

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EDITORIALS
Commissioning in the English NHS: A failing system that needs to be abandoned

Calum Paton

Commissioning in the English NHS was born officially in 1997, when the new Labour government dropped the previous Conservative government’s term “purchasing.” The aim was to signal that the culture of the competitive market was being replaced with collaboration between purchasers (health authorities, from 1997 to 2001) and providers (hospitals, mental health services, and community services), although the structure of the market—the split between purchaser and provider—remained. From 2002 the market was revived and commissioning became part of the new market.

Commissioning can be interpreted in two different ways. To some, it means collaboration between commissioners (primary care trusts and their associated general practices) and providers to determine healthcare needs and how to provide them in an affordable way. To others, commissioning is the means by which providers are disciplined—a view embraced by the Department of Health’s “world class commissioning” initiative, which is geared to making primary care trusts a meaningful countervailing power to hospitals.

Since the original “internal market” in the NHS, introduced in 1991, purchasing or commissioning has mutated through a series of confusing and frequent reorganisations, involving mutually incompatible policies and high costs. According to one recently published report from the House of Commons’ Health Select Committee, the costs of commissioning are 14% of the NHS budget.

The idea of general practitioners holding money to buy secondary services has come and gone repeatedly. Two other recent reports, produced jointly by the King’s Fund and Nuffield Trust, seek to revive that idea, despite the recent failure of “practice based commissioning”—a recent abortive attempt to replicate the incentives created by giving real budgets to general practitioners (as with the Conservative government’s general practitioner fund holding policy of 1991-7).

The Nuffield Trust and King’s Fund advocate “integrated care,” whereby primary and secondary clinicians work together, perhaps holding real budgets, but with the primary care trust as a separate higher level commissioning organisation. This would be complex and incur high costs. What is more, the main reason for such complexity would be to retain the purchaser-provider split, which many policy analysts see as necessary for the English NHS. Yet this is yesterday’s dogma rather than a necessity. The Nuffield report argues that primary care trusts will have to be larger. This is sensible, but hardly news (the 2005-6 merging of primary care trusts only three years after they had been created kept them still too small to plan complex services serving large populations). Yet it does not sit well with earlier research by some of the authors of the report, who argued that the benefits of purchasing or commissioning in primary care derive from the enthusiasm engendered by locally “owned” schemes.

So why is commissioning so weak? Firstly, most of conventional wisdom is wrong. It is argued that primary care trusts cannot control powerful hospitals, referrals, and admissions; and that commissioning attracts a lower calibre of manager than hospitals. Yet hospitals are desperate to avoid admissions for which they are not properly paid, which is the norm, as the
Oropharyngeal carcinoma related to human papillomavirus

Incidence is increasing rapidly, with implications for prognosis and policy

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Head and neck cancer is the sixth most common cancer, with about 640 000 new cases each year worldwide. Despite an overall marginal decline in the incidence of most head and neck cancers in recent years, the incidence of oropharyngeal squamous cell carcinoma has increased greatly, especially in the developed world. In the United States, the incidence of oropharyngeal squamous cell carcinoma increased by 22% from 1.53 per 100 000 to 1.87 per 100 000 between 1999 and 2006, after showing no change between 1975 and 1999. The United Kingdom has seen a 5% increase in oral and oropharyngeal squamous cell carcinoma in men from seven per 100 000 to 11 per 100 000 between 1989 and 2006.

The increase in incidence of oropharyngeal squamous cell carcinoma seems to be accounted for by a rise in human papillomavirus (HPV) related oropharyngeal carcinoma. A recent retrospective study showed a progressive proportional increase in the detection of HPV in biopsies taken to diagnose oropharyngeal squamous cell carcinoma in the Swedish county of Stockholm over the past three decades (23.3% in 1970s, 25% in 1980s, 57% in 1990s, 68% between 2000 and 2002, 77% between 2003 and 2005, and 93% between 2006 and 2007). Similarly, HPV related oropharyngeal carcinoma has been reported in 60-80% of recent oropharyngeal biopsy samples in studies conducted in the US, compared with 40% in the previous decade. More research is needed to establish the incidence of HPV related oropharyngeal carcinoma in African, Asian, and South American countries.

HPV related oropharyngeal carcinoma seems to be a new and distinct disease entity. It has a more favourable prognosis than non-HPV related oropharyngeal carcinoma, particularly in non-smokers. Two recent randomised trials have shown significantly improved two year overall survival in stage III and stage IV HPV type 16 related oropharyngeal carcinoma compared with non-HPV related cancers (87.5%...
Recent data suggests that any modification of treatment strategies based on HPV status may also need to take account of the effect of smoking in negating the beneficial effect of HPV on outcome.”

Rapid response by Angela Hong, radiation oncologist, and colleagues, Sydney Cancer Centre, NSW, Australia. To submit a rapid response, go to any article on bmj.com and click “respond to this article”.

The rise in HPV-related oropharyngeal carcinoma has implications for health service providers and commissioners. Patients are typically younger and employed, and—because outcomes seem to be more favourable than for patients with non-HPV related carcinoma—they will live longer with the functional and psychological sequelae of their treatment. Consequently, they need prolonged support from health, social, and other services, and may require help in returning to work.

There are also public health implications. Female only vaccination programmes may affect the incidence of HPV related oropharyngeal carcinoma. A recent modeling study of the effects of HPV vaccination in males concluded that routinely vaccinating boys for HPV could not be justified on health economic grounds.

The low incidence of HPV related oropharyngeal carcinoma in that study has led to concern because the recent rapid rise in HPV related oropharyngeal carcinoma may alter the cost effectiveness of vaccinating boys before they become sexually active.

Studies reporting treatment outcomes for head and neck cancer, particularly oropharyngeal carcinoma, must now account for HPV status, because of its association with improved prognosis. Newly diagnosed patients may wish to know their HPV status, and future stratification by HPV status will probably be necessary. Widely used methods to detect tumour associated HPV infection include detection of HPV-16 DNA using polymerase chain reaction or in situ hybridisation, detection of HPV E6 or E7 mRNA using reverse transcriptase-polymerase chain reaction, and immunohistochemical analysis of p16 overexpression, all of which act as markers of transcription or “activity.” However, standardised definitions and cut-off points must be agreed to identify the best test or combination of tests for clinical diagnosis, and to regulate quality assurance in clinical laboratories.

To date, we have no good evidence to support managing patients with HPV related head and neck cancer differently from those whose tumours are not HPV related, although several studies are being planned to evaluate different treatment options. Until data from such studies are available, we suggest that clinicians should not change their current treatment policies for patients with HPV related oropharyngeal squamous cell carcinoma, but should aim to offer all patients with oropharyngeal cancer the opportunity to enrol in an appropriate clinical trial.

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