

Effective Interventions Suggested References

School Based Screening

Updated: January 24, 2014

Reference	Abstract
<p>Cohen, D. A., et al. (1999). "Repeated school-based screening for sexually transmitted diseases: a feasible strategy for reaching adolescents." <i>Pediatrics</i> 104(6): 1281-1285.</p> <p>PubMed Link http://www.ncbi.nlm.nih.gov/pubmed/10585978</p>	<p>OBJECTIVES: To determine whether repeated school-based screening and treatment for chlamydia and gonorrhea will decrease the prevalence of infection among students. DESIGN: At three high schools serving over 2000 students, all 9th through 12th grade students were given the opportunity to be tested during three consecutive school years for chlamydia and gonorrhea, using urine ligase chain reaction tests. Five comparable schools with 5063 students enrolled served as wait-listed controls. SETTING: Eight urban public high schools in Louisiana. PARTICIPANTS: Annually, 52% to 65% of all enrolled students participated; among those enrolled in schools for > or = 2 years, 83.4% of students were tested at least once. INTERVENTION: Education of all students; counseling and treatment of infected students with oral single-dose antibiotic therapy. MAIN OUTCOME MEASURE: Prevalence of Chlamydia trachomatis and gonorrhea infection. RESULTS: At first test, 286 (11.5%) of 2497 girls and 143 (6.2%) of 2308 boys were infected with chlamydia, and 48 (2.5%) of 1883 girls and 19 (1.2%) of 1628 boys had gonorrhea. Over 90% of infections were asymptomatic. With repeated testing, chlamydia prevalence among boys dropped to half the rate of comparison schools (3.2% vs 6.4%). Among girls chlamydia prevalence declined only slightly (10.3% vs 11.9% in comparison schools). CONCLUSION: There are high rates of asymptomatic sexually transmitted diseases (STDs) in the general urban school population. Repeated screening and treatment are associated with declines in chlamydia prevalence among boys. Expansion of STD screening and treatment programs to school settings is likely to be a critical component of a national strategy to control bacterial STDs.</p>
<p>Fisman, D. N., et al. (2008). "The Philadelphia High-School STD Screening Program: key insights from dynamic transmission modeling." <i>Sex Transm Dis</i> 35(11 Suppl): S61-65.</p> <p>PubMed Link http://www.ncbi.nlm.nih.gov/pubmed/18607306</p>	<p>BACKGROUND: The Philadelphia high-school STD Screening Program (PHSSP) represents an innovative approach to screening-based control of Chlamydia trachomatis infection. The program has been associated with significant reductions in Chlamydia trachomatis prevalence in young females in Philadelphia. We sought to assess program cost-effectiveness in a manner that allowed us to quantify the impact of including males students in the screened population. METHODS: We created a dynamic transmission model using a susceptible-infectious-resistant-susceptible framework. The model was parameterized using PHSSP program data, supplemented by available data from the medical and public health literature, and was used to project the impact of screening on disease burden, quality adjusted survival, and costs. RESULTS: A well-calibrated model suggests that high-school based screening is highly cost-effective in the Philadelphia context. Five important insights are gained through dynamic transmission modeling of the PHSSP: (i) the importance of screening males can be appreciated using a dynamic transmission model; (ii) the attractiveness of screening males is inversely related to equilibrium prevalence in males; (iii) including males enhances both effectiveness and economic attractiveness of screening; (iv) rebound in prevalence does not greatly diminish the cost-effectiveness of screening; and (v) increasing program expenditures via increased screening coverage decreases net societal costs, due to diminished disease transmission. CONCLUSIONS: The current PHSSP is highly cost-effective relative to other commonly accepted interventions. Effectiveness and cost-effectiveness of this program are enhanced by including males. This, and other important attributes of the program, is best appreciated when a dynamic transmission model is used for program evaluation.</p>

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Reference	Abstract
<p>Low, N., et al. (2013). "Repeat chlamydia screening among adolescents: cohort study in a school-based programme in New Orleans." <i>Sex Transm Infect</i> 89(1): 20-24.</p> <p>PubMed Link http://www.ncbi.nlm.nih.gov/pubmed/22773326</p>	<p>OBJECTIVES: To describe uptake of chlamydia screening, determine rates of repeated yearly screening and investigate determinants of repeated participation in an organised school-based screening programme. METHODS: The authors analysed data from 1995 to 2005 from female and male students in up to 13 schools in New Orleans, Louisiana, USA. The authors calculated proportions of students tested among all enrolled students and among those with parental consent and the percentage of positive chlamydia tests in each school year. The authors used random effects logistic regression to examine the effect of past screening history on subsequent participation. RESULTS: 35 041 students were registered for at least one school year. Overall coverage was >30% in all school years. Among all students registered for 4 years, 10.6% (95% CI 9.3% to 12.0%) of women and 12.7% (95% CI 11.2% to 14.2%) of men had a test every year. Among students with parental consent for 4 years, 49.3% (95% CI 44.6% to 54.1%) of women and 59.3% (95% CI 54.5% to 64.0%) of men had a test every year. Among students registered for 2 or more years, those with a previous positive chlamydia test were less likely to have a subsequent test (female adjusted OR 0.77, 95% CI 0.67 to 0.88 and male adjusted OR 0.84, 95% CI 0.69 to 1.02). Chlamydia positivity increased over time. CONCLUSIONS: High levels of uptake can be achieved in school-based chlamydia screening programmes, but repeated yearly screening is difficult to sustain over time.</p>
<p>Nsuami, M. J., et al. (2013). "Chlamydia positivity in new orleans public high schools, 1996-2005: implications for clinical and public health practices." <i>Acad Pediatr</i> 13(4): 308-315.</p> <p>PubMed Link http://www.ncbi.nlm.nih.gov/pubmed/23685203</p>	<p>OBJECTIVE: To describe the trends in chlamydia positivity among New Orleans high school students tested in a schoolwide screening between 1996 and 2005, and to determine factors associated with chlamydia positivity among students during the 10-year period. METHODS: Between school years 1995-1996 and 2004-2005, students in New Orleans public high schools were tested for chlamydia using nucleic acid amplification tests (NAAT) in urine specimens (LCx assay until 1999-2000; BD assay from 2000-2001 to 2004-2005). For each year, we calculated chlamydia positivity by dividing the number of students testing positive by the total number of students tested. Data were analyzed separately by gender. Logistic regressions were performed to determine independent predictors of chlamydia positivity during the 10-year period. RESULTS: Between 1996 and 2005, the average chlamydia positivity was 7.0% (95% confidence interval 6.6-7.4) in boys and 13.1% (95% confidence interval 12.6-13.7) in girls (P < .001). Chlamydia detection increased with the switch from LCx to BD assay. In multivariate analyses, chlamydia positivity among boys and girls was significantly associated with age, black race, and gonorrhoea coinfection. Additionally, positivity was significantly different by school year among boys (P = .03) and by NAAT used among girls (P = .008). CONCLUSIONS: The trends in chlamydia positivity observed between 1996 and 2005 more likely reflected a high and stable prevalence of chlamydia in the New Orleans school-age adolescent population. Any benefit of screening on individuals tested was likely to be mitigated by participants' uninterrupted social interactions with the dynamic forces that sustain the sexual transmission of chlamydia in the population.</p>
<p>Wang, L. Y., et al. (2002). "An economic evaluation of a school-based sexually transmitted disease screening program." <i>Sex Transm Dis</i> 29(12): 737-745.</p> <p>PubMed Link http://www.ncbi.nlm.nih.gov/pubmed/12466713</p>	<p>BACKGROUND: A school-based sexually transmitted disease (STD) screening program was implemented in eight New Orleans public high schools to detect chlamydia and gonorrhoea. GOAL: The goal was to assess the incremental cost-effectiveness of replacing non-school-based screening with the school-based screening program. STUDY DESIGN: A decision-analysis model was constructed to compare costs and cases of expected pelvic inflammatory disease (PID) in the school-based screening scenario versus a non-school-based screening scenario. Cost-effectiveness was quantified and measured as cost per case of PID prevented. RESULTS: Under base-case assumptions, at an intervention cost of \$86,449, the school screening program prevented an estimated 38 cases of PID, as well as \$119,866 in treatment costs for PID and its sequelae, resulting in savings of \$1524 per case of PID prevented. Results remained cost-saving over a reasonable range of model parameter estimates. CONCLUSIONS: The New Orleans school-based chlamydia screening program was cost-effective and cost-saving and could be cost-effective in other settings. School-based screening programs of this type are likely to be a cost-effective use of public funds and can reduce the burden of STDs among adolescents.</p>