Translating and Sustaining a Chlamydial Screening Intervention 4 Years Later

Chlamydia trachomatis remains the most commonly reported bacterial sexually transmitted infection among female adolescents and women aged 15 to 24 years. It is largely asymptomatic and is associated with major reproductive morbidity. Screening for chlamydia has been shown to be cost-effective and is recommended for all sexually active female patients 24 years or younger. Yet, improvements in screening rates have been small.

In a randomized controlled trial, a clinical practice improvement intervention successfully increased chlamydial screening among pediatric clinics in a large health maintenance organization (HMO). The purpose of the present study was to examine the sustainability of this intervention and to translate it to the remaining clinics in the HMO.

Methods. This is a follow-up study to the original randomized controlled trial, which was completed in March 2002, and then translated to the remaining pediatric clinics between quarters 2 and 4 of 2002 (Figure). The HMO was responsible for translation activities, with our research team serving as unpaid consultants with no direct contact with the targeted clinic staff. The theoretical framework for the intervention was based on the model by Langley et al for clinical practice improvement and had 4 main components: Engage→Team Building→Redesign Clinical Practice (PDSA cycles)→Sustain the Gain.

Engage and Team Building. The HMO formed a regional leadership team with representation from regional health education and 2 adolescent medicine physicians. This translation phase included the development of an HMO manual and tools to facilitate the adoption of the intervention and establishment of a chlamydial screening quality goal. The HMO regional team requested each pediatric clinic to identify 2 champions: (1) a pediatric provider and (2) a medical assistant.

Redesign Clinical Practice. The champions at each clinic formed a local team with representation from their respective clinic staff who reviewed implementation strategies and then redesigned their clinic system to fit their specific practice. Though the intervention framework was flexible to meet site-specific needs, most of the “original” system change approaches were adopted, including protocols for cueing medical charts, universal urine collections, establishing confidentiality, ordering tests, storing samples, and follow-up of positive test results.

Sustaining the Gain. The HMO generated clinic site-specific screening rates that were distributed monthly by the site pediatric chief to the on-site team and clinical staff. The clinician champions throughout the region met quarterly to discuss site-specific screening rates and implementation progress.

Data Analysis. Follow-up data were tracked quarterly for 4 additional years (2003-2006). The proportion screened was calculated using the same method as the original study. Changes in the rate variable over time within and between these control sites were performed using linear mixed-effects models with random intercepts.

Results. At the end of the original randomized controlled trial, the proportion of sexually active girls screened for chlamydia was 64% in the intervention and 21% in the control clinics. The average screening rate in the intervention group was sustained at 60% (95% CI, 41%-79%) during the 4-year follow-up. Among these clinics there was an annual mean (SD) of 4017 (336) preventive health visits; 576 (27) chlamydial screening tests yielded an infection rate of 4.7% (0.01%).

After the intervention translation was completed in the former control clinics, the proportion screened reached a maximum of 69% (95% CI, 55%-83%) at year 2.5 (Figure). Despite a decline to 52% (95% CI, 35%-70%) at the end of year 4, the proportion screened exhibited statistically significant linear and quadratic effects of time (P=.002 by Wald χ² test). There were 3755 (SD, 180) preventive health visits; 472 (SD, 7) chlamydia tests, and a 4.8% (SD, 0.01%) infection rate among these clinics.

Comment. The present study shows that the improved chlamydial screening rates were sustained in the original study group of clinics through the 4-year follow-up period and that the intervention was successfully trans-
lated, implemented, and sustainable in the 5 former control clinics. National data from commercial HMOs showed only a 10% increase in chlamydia screening rates over a longer period (2000–2008).\(^3\)

A limitation of this study is that it was conducted in an HMO setting that potentially limits its generalizability. However, this HMO context provides important insights as to what infrastructure designs are necessary to support quality improvement efforts such as chlamydial screening. When clinic teams were responsible for making small, incremental system improvements, the sustainability of the intervention was enhanced. The regional infrastructure allowed deployment of staff to lead the translation component and use the HMO network of health care providers and staff to support translation and implementation efforts. It prioritized these efforts by designating chlamydial screening as a quality goal. Its data infrastructure allowed individual sites to monitor their improvements. In addition, the HMO’s confidentiality protections supported open access to sexually transmitted infection screening and treatment, a service many adolescents need but lack.\(^8\)

In conclusion, the lessons learned from implementing, translating, and sustaining this intervention have important implications that extend beyond our HMO setting.

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Body Weight in Early and Mid-Adulthood in Relation to Subsequent Coronary Heart Disease Mortality: 80-Year Follow-up in the Harvard Alumni Study

In the very few studies conducted, obesity in young adults is generally associated with an increased risk of future coronary heart disease (CHD). However, data interpretation is complicated by methodological limitations, which include small study size; a paucity of studies examining the impact of confounding factors; and unexplored mechanisms, including the essentially unknown contributions of early vs later body weight on CHD risk,\(^5,6\) which has implications for weight control interventions. In the largest and best characterized study to date, to our knowledge, we directly address these shortcoming.

See Editor’s Note at end of letter

Methods. The Harvard Alumni Health Study is a cohort study of men who had a routine medical examination as undergraduates at Harvard University, Cambridge, Massachusetts, between 1916 and 1950.\(^7\) Measurements of height, weight, and blood pressure were made, and students responded to queries regarding smoking habits; details on physical activity were ascertained from university records.\(^6\) Questionnaires mailed to surviving alumni in either 1962 or 1966 included questions about height, weight, lifestyle habits, and medical history; a high level of agreement has been shown between these re-