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Effective interventions to reduce STDs; Introduction to the special issue.

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When the U. S. National Gonorrhea Control Program was launched in 1973, it added a layer of complexity to Programs that had previously focused almost entirely on syphilis.¹ Now, there are over 35 sexually transmitted or transmissible pathogens,² and counting only 8 of them, the prevalence was estimated to be 110 million in the United States in 2008.³ Although interventions to control these infections still fit into the general categories outlined by Thomas Parran in the 1930s,⁴ there are now more options and approaches, including vaccination, pre-exposure prophylaxis, treatment, education, screening, providing condoms, and more. These interventions are accomplished using partners from community based organizations, federally qualified health centers, departments of corrections, schools, private providers, and business partners like MTV. The mix of STD and potential control strategies varies across populations so programs are quite different in Maine, Montana, Miami, and Memphis. It is now common for programs to be pulled in multiple directions.

Compared to the complexity of navigating through all the issues faced by programs, the goal of this special issue was simple: to summarize the published evidence for effectiveness of various kinds of interventions to control STD, with today's STD program staff in mind. What does the latest evidence say is more (or less) effective for meeting a program's goals? How does the literature suggest programs can accomplish more while spending less? We sought to develop a menu of options to help programs identify effective interventions that meet their needs.

The published literature was helpful in some ways, but not in others. One problem authors faced while preparing the menu was that few of the publications on interventions included any cost information, and when costs were included they were calculated so differently that they could not be compared across studies. In addition, the benefits of the interventions were hard to compare. For example, some papers reported the percent of persons screened who tested positive, but the papers lacked details about how many were newly identified infections, how many were treated, or how much onward transmission was prevented. Furthermore, the cost and benefits of an intervention depend on the context and on other interventions that are already in place. Authors also faced the common problem of summarizing evidence from studies with varying levels of rigor and potential bias. Finally,

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how does a program balance interventions across the mix of policy, screening, partner services, and community outreach? This is the challenge of program science.^{5, 6} Although this special issue does not solve the problem of balancing screening with social marketing, it does help identify which screening approaches work best, and it identifies key components of successful social marketing, among other findings.

The issue includes three overview papers and nine papers focused on a range of STD interventions. The overview papers provide high-level summaries of three cross-cutting programmatic concerns: assessment, program evaluation, and predicting the impact of interventions. Those papers offer frameworks for conceptualizing these issues and provide practical information to help STD program staff use them in their work. The papers focused on STD interventions include traditional approaches such as partner notification and screening programs in clinical settings, schools, and outreach settings, as well as broader interventions such as social marketing, behavioral counseling, linkage and referral to care, and policy interventions. In all cases, the recent literature offers some helpful guideposts for STD programs today.

Programs have different needs, and readers have different interests, so highlights of these papers will be highly reader dependent. Here are a few notable findings:

Screening programs work amazingly well if they are done automatically, such as routine syphilis screening of HIV-infected MSM when they have blood drawn for a CD4 count or viral load. Convincing providers to implement such systematic changes would likely be a low-cost, highly effective, intervention for syphilis prevention. Other approaches to screening for syphilis, such as outreach testing, are much more costly and less productive.

Partner notification remains an effective method of finding important cases, but the cost is high, and it is often not the most efficient method of finding infected persons. A challenge for partner services is how to assure that partners of persons with gonorrhea or chlamydia are treated at a reasonable cost. Giving patients medication to bring to their partners has been proven to help reduce reinfection rates. Newer approaches such as text messaging have great potential, but are not fully evaluated.

Policy changes can have long-lasting impact, but changing a policy does not immediately change practice. Laws allowing patients to bring medicine to their partners are an important step in partner treatment, but the drop-off at different levels of the treatment cascade demonstrate that more work is needed at various levels.

Brief behavioral counseling often works, especially for young, moderately high-risk heterosexual men and women. It has been shown to be effective both in and outside of STD clinics, but it requires moving beyond didactic instruction.

Providing care for persons with STD now extends beyond treating the 35 sexually transmissible infections² and includes addressing other conditions that are commonly seen among persons with STD. Passive referral of STD patients to

medical or social services is unlikely to be effective; active linkage is essential, and not necessarily costly.

This special issue is just one step along the pathway bridging science and practice.^{7, 8} Much more should be done to accelerate a fruitful exchange on what works, and in which settings, for STD prevention and control. For example, there is a great deal of thoughtful experience and experimentation in STD program operations at state and local levels that complements the published literature summarized here. We need to find ways to make that unpublished evidence more accessible to other STD programs nationwide. Both sources of knowledge are needed to improve program effectiveness and efficiency. Furthermore, dissemination of knowledge is necessary but insufficient for promoting changes at the program level. In addition to evidence reviews like these, we need to develop and share more tools and resources (such as intervention toolkits, checklists, and implementation guides) that help program staff sort through the various decision-points about whether and how to adopt an intervention used successfully in another context. Implementation of new initiatives or other major program changes also often requires committed leadership, institutional support, and other resources.

Thus these papers are part of a larger dissemination and translation enterprise. We hope they will be used to galvanize discussion about what works in STD prevention and further support collective commitment to program science.

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References:

1. Balows A, Printz DW. CDC program for diagnosis of gonorrhea. JAMA 1972;222:1557.
2. Holmes KK, Sparling PF, Stamm WE, et al. Introduction and overview. Sexually Transmitted Diseases, 4th Edition, 2008 McGraw-Hill.
3. Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sex Transm Dis 2013;40:187–193. [PubMed: 23403598]
4. Parran T Shadow on the Land: Syphilis. (New York: Reynal and Hitchcock, 1937).
5. Aral SO, Blanchard JF. The Program Science initiative: improving the planning, implementation and evaluation of HIV/STI prevention programs. Sex Transm Infect 2012;88:157–159. [PubMed: 22363021]
6. Aral SO, Cates W Jr. Coverage, context and targeted prevention: optimising our impact. Sex Transm Infect 2013;89:336–340. [PubMed: 23270932]
7. Wandersman, Duffy, Flaspohler et al. 2008; Bridging the Gap Between Prevention Research and Practice: The interactive systems framework for dissemination and implementation. Am J Commun Psychol 2008;41:171–181.
8. Straus SE, Tetroe J, Graham I. Defining knowledge translation. Can Med Assoc J 2009;181:165–168. [PubMed: 19620273]