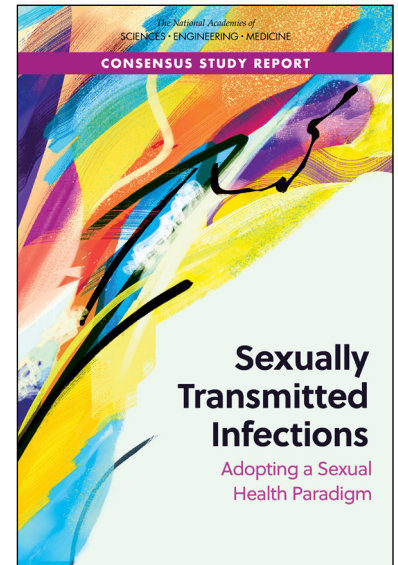




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Sexually Transmitted Infections Adopting a Sexual Health Paradigm

Sexual and reproductive health is critical to overall health and well-being. The prevention and control of sexually transmitted infections (STIs)—a major component of sexual and reproductive health—however, have been chronically underfunded, stigmatized, and frequently left out of national conversations around health in the United States. STIs are quite common and reported cases have been increasing—the Centers for Disease Control and Prevention (CDC) estimates that one in five people in the United States had an STI on any given day in 2018, totaling nearly 68 million estimated infections (see Figure 1). STIs are often asymptomatic, and long-term effects of STIs include chronic pelvic pain, infertility, miscarriage or newborn death, increased risk of HIV infection, genital and oral cancers, and neurological and rheumatological consequences. Although the rate of diagnosed STIs has increased across all populations in the United States, marginalized groups, including youth; women; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) people; and Black, Latino/a, American Indian/Alaska Native, and Native Hawaiian/other Pacific Islander people, continue to experience a disproportionate share of STI cases.



Although scientific advances have been made over the past 20 years, which demonstrates that progress is possible in preventing and treating STIs, many of the same problems and barriers persist today. To address the continuing epidemic of STIs, CDC, through the National Association of County and City Health Officials (NACCHO), asked the National Academies to review the current state of STIs in the United States, including the economic burden, current public health strategies and programs (including STI diagnostics, vaccines, monitoring and surveillance, and treatment), and barriers in the health care system, in order to provide advice on future public health programs, policy, and research in STI prevention and control. The committee's resulting report, *Sexually Transmitted Infections: Adopting a Sexual Health Paradigm*, addresses this charge.

CONTEXT AND FRAMEWORK FOR THIS REPORT

The committee's primary emphasis was addressing the growing epidemics of chlamydia, gonorrhea, and syphilis, but the framework and recommendations presented in this report are intended to strengthen the response to a broad range of STIs. Although HIV is an STI of significant concern, the committee was asked to focus its recommendations on STIs other than HIV given their alarming increase; the committee's consideration of HIV is focused on the interplay between HIV and other STIs and how to better leverage separate HIV and STI prevention, care, and research programs.

The committee developed a social ecological framework that emphasizes the importance of interrelated factors that lead to the spread of STIs, with the understanding that social and structural determinants of health and health inequities play a key role. The framework incorporated the concept of intersectionality, that sexual health is inextricably linked to overall health and well-being across the life span, and that human sexuality is a vital element of mutually consensual love and pleasure, as well as the fundamental prerequisite for procreation.

This report was written during the COVID-19 pandemic, which exposed weaknesses in public health preparedness and has led to less attention to STIs and fewer critical services being delivered. The committee concluded that because STIs are infectious diseases that require testing, treatment, and partner notification, and the STI workforce has experience in pandemic response, strengthening the STI infrastructure and expanding its workforce can also prepare the nation for future public health threats.

The committee organized its recommendations under four action areas: (1) Adopt a sexual health paradigm; (2) Broaden ownership and accountability for responding to STIs; (3) Bolster existing systems and programs for responding to STIs; and (4) Embrace innovation and policy changes to improve sexual health.

ADOPT A SEXUAL HEALTH PARADIGM

The nation's response to STIs has mostly focused on individual risk factors and individual behavior change and has failed to address structural and societal factors that affect infection and disease. Since the beginning of the 20th century, approaches to preventing the spread of infectious disease have tended to fuel blame, stigma, and shame, and therefore have not been successful to fully address the prevention and control of STIs. Instead, a holistic approach that focuses on sexual health in the context of broader health and well-being is needed. Significant work is necessary to eradicate stigma and educate the U.S. population on what it means to be sexually healthy and where and how individuals can access comprehensive sexual health services. While this paradigm shift is needed, it should not be viewed as a political issue nor one that needs to be in conflict with religious beliefs or ethical standards.

To support this goal at the federal level, the committee recommends that the Department of Health and Human Services (HHS) develop a vision and blueprint for sexual health and well-being that can guide the inclusion of a sexual health paradigm across all HHS programs, including the major public insurance programs as well as the public health programs administered throughout the department. For the full text of the committee's recommendations, see the Recommendations insert.

BROADEN OWNERSHIP AND ACCOUNTABILITY FOR RESPONDING TO STIs

Although children and adolescents learn information about sexual health in many ways, including from social media, parents and guardians play a central role in supporting their children's sexual and reproductive health and STI prevention. Therefore, the committee recommends that federal agencies, including CDC and HHS, provide parents and guardians with evidence-based guidance on how to engage in developmentally appropriate, comprehensive sexual health education and dialogue with their children. CDC should also take steps to encourage public dialogue in various community settings (including families, schools, faith-based organizations, and workplaces) about how to be sexually healthy, and promote actions that lead to a greater understanding of healthy sexuality.

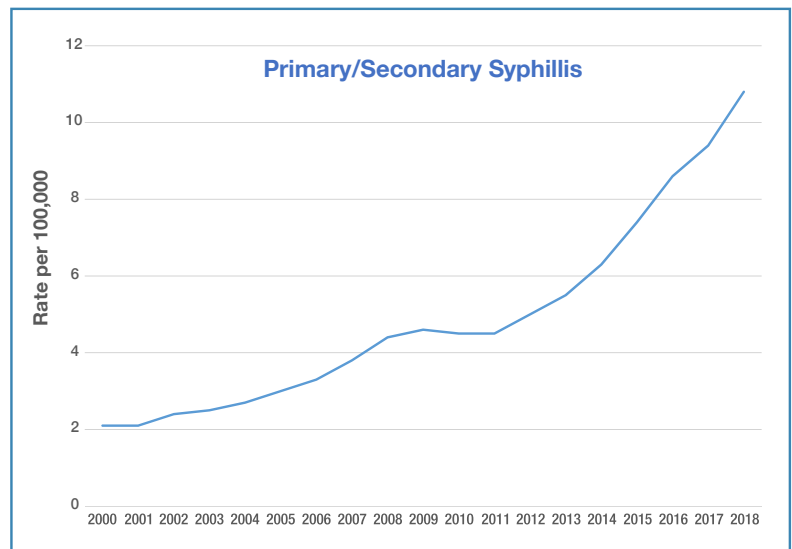
BOLSTER EXISTING SYSTEMS AND PROGRAMS FOR RESPONDING TO STIs

The CDC Division of STD Prevention (DSTDp) provides critical leadership in guiding the nation's federal STI response. The committee supports maintaining and enhancing this role, including encouraging DSTDp to be more assertive and, in some cases, provide more direction to states and local jurisdictions in the grant-making process to facilitate the development of minimum national standards of data reporting and STI care. The committee recommends that CDC modernize its core STI activities to strengthen timely monitoring, ensure that treatment guidelines remain current as knowledge evolves, and leverage federal support to increase consistency and accountability across jurisdictions. Furthermore, CDC should improve coordination and strengthen population outcomes by supporting local stakeholder engagement processes to develop and implement local plans for STI control and develop STI Resource Centers for clinical consultation, workforce development, and technical assistance (key partners include NACCHO and the National Coalition of STD Directors).

Other recommendations to bolster the current system include:

- establish new STI payment and coverage options to close coverage gaps;
- accelerate progress on biomedical interventions, including the development of point-of-care diagnostic tests, the development of diagnostic tests for active syphilis, and the promotion of public-private partnerships to develop new antimicrobials and expedited development of vaccines;
- support and expand the STI workforce for both the clinical workforce and important segments of the nonclinical public health and social services professions; and
- expand the reach of psychosocial and behavioral interventions by developing sustainable funding for adoption, scale up, and dissemination; establishing standard guidelines for school-based comprehensive sexual health education; and developing, evaluating, and disseminating community-based approaches.

FIGURE 1: RATES OF REPORTED PRIMARY/SECONDARY SYPHILLIS CASES PER 100,000 POPULATION IN THE UNITED STATES, 1999–2018



EMBRACE INNOVATION AND POLICY CHANGES TO IMPROVE SEXUAL HEALTH

To date, few structural interventions that address STIs have been developed, especially those that might address the effect of intermediary social determinants of health influenced by structural racism and other health inequities. Addressing the structural determinants of STIs and STI inequities will require bold vision, bolstered by a long-term commitment with multi-disciplinary, multi-sectoral, and interagency collaboration. To accomplish this goal, the committee recommends that the Secretary of HHS acknowledge structural racism and other inequities as root causes of STI outcomes and inequities and as threats to sexual health. In addition, HHS should lead a whole-of-government response to eliminating these inequities. This commitment should include dedicated cross-agency funding from the National Institutes of Health, CDC, the Health Resources and Services Administration, and private foundations and funders.

Advances in technology—such as social media, mobile apps, artificial intelligence (AI), and big data—hold great promise for STI prevention and control. The question of *whether* new technologies pose STI transmission risk is no longer relevant, given that they are nearly ubiquitous. Instead, the relevant questions are how, why, when, and where these technologies increase risk; how, when, and where they can be leveraged to promote sexual health; and how public health can integrate this knowledge into daily STI prevention and control efforts to ensure safe and ethical oversight. The committee recommends that CDC expand its capacity to use these types of technologies for STI prevention and control, including by developing timely, novel, and open data systems and using AI-based mass marketing, while regularly evaluating new tools and public views about them to determine the best course of action given the changing ethical landscape.

CONCLUSION

Despite the dedicated commitment of many individuals and agencies, STI research, policy, and services continue to suffer from neglect. Flat federal investments—CDC’s STI funding over the past two decades has remained fixed, with a 40 percent reduction in inflation-adjusted dollars—and declining state and local investments in the face of all-time high numbers of reported cases of STIs underscore the failure of the STI crisis to capture the attention of the public and policy makers.

These recommended changes will take concerted commitment and action, but it is possible to reduce the impact of STIs on society and take bold actions to control STIs in the immediate future. In turn, this can create a platform where the nation can return to the ultimate task of planning to eliminate these serious health threats.

Committee on Prevention and Control of Sexually Transmitted Infections in the United States

Sten H. Vermund (*Chair*)
Yale University School of Public Health

Madina Agénor
Tufts University

Cherrie B. Boyer
University of California, San Francisco

Myron S. Cohen
University of North Carolina at Chapel Hill

Jeffrey S. Crowley
Georgetown University

Charlotte A. Gaydos
Johns Hopkins University

Vincent Guilamo-Ramos
New York University

Edward W. Hook III
The University of Alabama at Birmingham

Patricia Kissinger
Tulane University

Guillermo (“Willy”) J. Prado
University of Miami

Cornelis (“Kees”) Rietmeijer
Rietmeijer Consulting, LLC

Alina Salganicoff
Kaiser Family Foundation

John Schneider
University of Chicago

Neeraj Sood
University of Southern California

Jessica Willoughby
Washington State University

Sean D. Young
University of California Institute for Prediction Technology
University of California, Irvine

Carmen D. Zorrilla
University of Puerto Rico
Maternal-Infant Studies Center

Study Sponsors

Centers for Disease Control and Prevention
National Association of County and City Health Officials

Study Staff

Amy B. Geller
Study Director

Aimee Mead
Associate Program Officer

Sophie Yang
Research Associate

Hayat Yusuf
Senior Program Assistant (*until March 2020*)

Harika Dyer
Senior Program Assistant (*from April 2020*)

Anna W. Martin
Administrative Assistant (*until April 2020*)

Y. Crysti Park
Administrative Assistant (*from April 2020*)

Rose Marie Martinez
Senior Director, Board on Population Health and Public Health Practice

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