

# Sexually Transmitted Infections

Adopting a Sexual Health Paradigm

## Digital Technology and Media Experts From Public and Private Sectors Should Collaborate to Leverage Technology and Media for STI Prevention and Control

**Federal agencies should expand their capacity to use technology for STI prevention and control. Digital behavior change and team science experts from the public and private sectors should collaborate to develop timely and open data systems and AI-based mass marketing strategies to advance STI prevention.**

Sexually transmitted infections (STIs) are a longstanding problem in the United States, with persistently high, increasing, and now record-level rates of reported cases. One important area to explore to prevent and control STIs is technology and new media. Much has changed in the technology and media landscape in the past two decades that has had an impact on STI acquisition, prevention, screening, and treatment. Technological tools, including artificial intelligence (AI), highly immersive media, and cryptographic data transfer methods/blockchain apps, are rapidly changing STI epidemiology and intervention efforts.

The report *Sexually Transmitted Infections: Adopting a Sexual Health Paradigm* provides an overview of the evidence-based associated risks and benefits for:

- ➔ Social media
- ➔ Mobile apps
- ➔ Dating apps/websites
- ➔ Online pornography
- ➔ Virtual/augmented reality
- ➔ Text messaging
- ➔ Digital contact tracing and digital exposure notification
- ➔ Wearable devices/biosensors
- ➔ Television, radio, and print
- ➔ Electronic health records
- ➔ Blockchain
- ➔ Cryptocurrency
- ➔ “Big data” and AI

### KEY QUESTIONS TO EXPLORE

How, why, when, and where do these **technologies increase risk**?

How, when, and where can they be **leveraged to promote sexual health**?

How can public health **integrate this knowledge into daily STI prevention and control efforts** to ensure safe and ethical oversight?

## POLICY CONSIDERATIONS

To keep pace with the rapid advancements in technology and their effects on sexual health, it is essential that the field of public health implements policy based on three important considerations:

1. Technology companies, technologists, and start-ups that have developed social media and mobile apps to address the public's interests (such as a desire to quickly and easily find relationships and/or sexual partners) should be included in the public health response to STIs. They can provide expert insights into individual decision-making processes related to sexual behaviors.
2. AI-based tools will become increasingly better at targeting individuals and changing their behaviors. These tools hold promise for altering individual and group behaviors and promoting sexual health.
3. Ethical issues around technological tools are evolving faster than policies. Public health agencies should regularly evaluate new tools and public views about them to determine the best course of action for the changing ethical landscape.

## RECOMMENDED ACTION

The Centers for Disease Control and Prevention should expand its capacity to use technology for STI prevention and control. Digital behavior change and team science experts from the private and public sector should collaborate with agency public health and marketing staff to develop timely and open data systems and deploy AI-based mass marketing strategies to advance STI prevention.

### RECOMMENDED ACTIVITIES:

- ➔ Engage in regular dialogue about ethical, technological, and health equity issues associated with novel technologies with leading industry and nonprofit experts in digital technology and social communication along with STI providers and representatives of affected communities.
- ➔ Strengthen interoperability and security of data management systems, safeguarding the privacy and confidentiality of individually identifiable information, and increase the timeliness, openness, and accuracy of aggregated data.
- ➔ Invest in new epidemiologic data sources and approaches, such as models incorporating STI-related social media and Internet search data, data analytics, and data visualization to communicate emerging STI trends to public health stakeholders and the public.
- ➔ Partner with state and local health departments to develop and implement targeted AI-based digital mass communication outreach strategies to address inequities among populations heavily impacted by STIs.

## DID YOU KNOW?

- ➔ Each technological innovation is only a tool that can (if designed properly) be used to reach and engage masses quickly; it is not inherently "risky" or "health promoting" by itself, as this depends on the use.
- ➔ Some technological innovations are ready for immediate implementation in the area of STIs and sexual health; others require more research.
- ➔ Technological innovations have typically been led by industry (e.g., media and technology companies). These tools can improve identification, targeting, and behavior change of individuals and groups. Partnering with industry can allow policymakers to learn about these tools, their risks and benefits, and how to incorporate them into STI policy and practice.
- ➔ Technological approaches can be cost-effective. For example, AI approaches can scale outreach to highly targeted groups. AI methods being used for highly targeted consumer outreach by advertising companies could be applied to STI prevention and care.

## CONCLUSION

Technologies are not inherently good or bad. Studying them will help stakeholders identify potential usefulness or harm for public health. Technology will continue to evolve and proliferate, and should be acknowledged as a tool that is changing the landscape in which information, interventions, and research related to STI prevention, control, and treatment are being conducted. Digital health funding has increased significantly in recent years and will likely continue to grow rapidly. This funding will likely lead to new technologies and approaches that can be incorporated into public health activities. More research in this area can help determine what actions can lead to benefits for STI prevention and control.



To learn more about the role of technology and new media in preventing and controlling STIs, see [Chapter 6 of the report](#).

## Funding, Deals, and Deal Size 2013–2020

