HHS Public Access

Author manuscript

Sex Transm Dis. Author manuscript; available in PMC 2020 August 01.

Published in final edited form as:

Sex Transm Dis. 2019 August ; 46(8): 487–492. doi:10.1097/OLQ.0000000000001018.

The National Network of Sexually Transmitted Disease Clinical Prevention Training Centers Turns 40—A Look Back, a Look Ahead

Bradley P. Stoner, MD, PhD[*], **Jami Fraze, PhD**[†], **Cornelis A. Rietmeijer, MD, PhD**[‡], **Janine Dyer, MPH**[§], **Alice Gandelman, MPH**[¶], **Edward W. Hook III, MD**[‖], **Christine Johnston, MD, MPH**[**], **Natalie M. Neu, MD, MPH**[††], **Anne M. Rompalo, MD, ScM**[‡‡], **Gail Bolan, MD**[†] **National Network of STD Clinical Prevention Training Centers**[*]

[*]St. Louis STD/HIV Prevention Training Center, St. Louis, MO;

[†]Centers for Disease Control and Prevention, Atlanta, GA;

[‡]Denver Prevention Training Center, Denver, CO;

[§]Sylvie Ratelle STD/HIV Prevention Training Center, Boston, MA;

[¶]California Prevention Training Center, Oakland, CA;

[‖]Alabama/North Carolina STD/HIV Prevention Training Center, Birmingham, AL;

[**]University of Washington STD Prevention Training Center, Seattle, WA;

[††]New York City STD/HIV Prevention Training Center, New York, NY;

[‡‡]STD/HIV Prevention Training Center at Johns Hopkins, Baltimore, MD

Abstract

Since 1979, the National Network of Sexually Transmitted Disease (STD) Clinical Prevention Training Centers (NNPTC) has provided state-of-the-art clinical and laboratory training for STD prevention across the United States. This article provides an overview of the history and activities of the NNPTC from its inception to present day, and emphasizes the important role the network continues to play in maintaining a high-quality STD clinical workforce. Over time, the NNPTC has responded to changing STD epidemiological patterns, technological advances, and increasing private-sector care-seeking for STDs. Its current structure of integrated regional and national training centers allows NNPTC members to provide dynamic, tailored responses to STD training needs across the country.

In 2019, the National Network of STD Clinical Prevention Training Centers (NNPTC) celebrates its 40th year of providing state-of-the-art clinical and laboratory training courses to healthcare providers across the United States. This anniversary affords us an opportunity to look back at the creation of the training centers and review the progress we have made in the challenging task of providing evidence-based training to clinicians caring for persons

Correspondence: Bradley P. Stoner, MD, PhD, St. Louis STD/HIV Prevention Training Center, Washington University in St. Louis 1 Brookings Drive, Campus Box 1114 St. Louis, MO 63130. bstoner@wustl.edu.

with or at risk for sexually transmitted diseases (STD). Over time, the training centers have responded to numerous changes in the healthcare training landscape, including shifting patterns of disease epidemiology and other factors contributing to disease transmission; new developments in diagnostic technology; new mechanisms of disseminating information; and structural changes in the provision of healthcare and safety net services. This anniversary also gives us a chance to look forward to challenges ahead and to reinforce the need for robust clinical and laboratory training in the years (decades) to come.

HISTORY OF THE TRAINING CENTERS

The period following World War II was one of great optimism for STD prevention, but also one of great frustration. The increasing use and availability of penicillin in the late 1940s and 1950s represented a tremendous advance in the treatment for syphilis and gonorrhea, and many thought STDs would disappear altogether.[1] Professional interest in the field of "venereology" waned. The chief US journal in the field, the *American Journal of Syphilis, Gonorrhea, and Venereal Diseases*, ceased publication in 1954 due to a perceived lack of interesting case material. Concomitantly, medical schools devoted substantially less time to teaching students about these conditions; by 1974, the average US medical student reportedly received only 8.2 hours of STD instruction.[2,3]

Rates of reported STDs began to rise in the 1960s and 1970s in concert with emerging social and political movements with implications for sexual health (such as greater availability and use of oral contraceptives, and increasing social and legal acceptance of same-sex sexuality), and health professionals were ill-equipped to deal with the changing epidemiology. For example, in the 10-year period from 1966 to 1976, gonorrhea case rates increased an alarming 250% (from 181.2 per 100,000 to 460.6 per 100,000), and syphilis remained a persistent problem.[4] Moreover, scientific research generated substantial new information about the types and nature of sexually transmitted pathogens, dramatically increasing the size of the STD portfolio beyond the five "classical" venereal diseases of syphilis, gonorrhea, chancroid, donovanosis, and lymphogranuloma venereum.[5] In the early 1970s, *Chlamydia trachomatis* was recognized as a cause of nongonococcal urethritis and other genital tract syndromes,[6] and practitioners became increasingly responsible for diagnosing and treating such nonreportable conditions as trichomoniasis, genital herpes, genital warts, pubic lice, and a host of other sexually transmitted conditions.

In 1979, in response to this crisis, the Venereal Disease Control Division at the Centers for Disease Control (CDC) initiated the "STD Prevention/Training Clinic" program to offer high-level STD clinical training and technical assistance to physicians, nurses, physician extenders, and clinicians in training.[3] The program was established as a collaborative venture with state and local health departments and affiliated medical schools, and was designed to address comprehensive STD control and prevention through expert instruction in clinical and laboratory aspects of STD care.

The STD Prevention/Training Clinic program established three specific courses for clinicians of different levels of need and interest: an 80-hour, two-week STD Clinician Level 1 course for entry-level personnel, a shorter 40-hour, one-week STD Clinician Level 2

course for experienced practitioners, and a 16-hour, two-day STD Update course specifically targeting physicians. All of the courses coupled formal classroom didactic training with practical hands-on clinical and laboratory experience in affiliated “public health venereal disease clinics.”[3] Centers for Disease Control staff evaluated STD clinical sites with regard to the effect of training on clinical service delivery, and time requirements for clinical training faculty, and space and equipment needs, then helped broker negotiations with health departments and medical schools to establish training curricula and course schedules.

The regional training approach was an immediate success. By 1980, nine STD prevention/training clinical sites had been established across the United States, and approximately 800 clinicians completed formal clinical training courses during the first year of operation. As well, an additional 500 medical students and house staff received some STD clinical training through the program.[3] The clinics represented an innovative approach to STD prevention and control by engaging strong collaborative relationships between health departments (which had previously been only marginally involved in student training) and medical schools (which had previously not linked closely with state and local health authorities).

EXPANSION AND FORMATION OF THE TRAINING CENTER NETWORK

Over the next decade and a half, the program expanded, reformed, and continually reinvented itself to meet the changing needs of STD clinical training. Initially branded as STD “training clinics,” the program morphed into “training centers” which routinely coupled state-of-the-art classroom instruction with real-world practicum training in a public STD clinic. Instructors were often accomplished STD research clinicians with medical school appointments, and health department staff were increasingly engaged in clinical research activities to expand the knowledge base about STD pathogenesis, diagnosis, treatment, and prevention. Closer relationships between universities and health departments were enhanced and further solidified, and CDC’s Division of STD Prevention subsequently established regional training centers, each linked to a “model” STD clinic providing high-quality, evidence-based STD services.

In 1995, the training center effort underwent a major program expansion and reformation. Regional training centers were established in each of the ten Public Health Service regions designated by the US Department of Health & Human Services,[7] leading to a more even geographic distribution. As well, separate centers were established to focus specifically on HIV behavioral training and partner services training. Co-funded by the Division of STD Prevention (DSTDP) and the Division of HIV/AIDS Prevention of the CDC, the resulting 10 regional STD centers, four HIV behavioral centers, and four partner services centers were subsequently rebranded as the “National Network of STD/HIV Prevention Training Centers” (NNPTC). Over the ensuing years, the network continually evolved in response to changing STD epidemiological patterns, new models of healthcare delivery (including more comprehensive STD clinical preventive services to meet the current and more complex needs of clients), and advances in training technologies. Over time, the NNPTC established itself as a key member of the Federal Training Centers Collaborative, a consortium of training initiatives sponsored by CDC, Health Resources and Services Administration, Substance Abuse and Mental Health Services Administration, Office of Population Affairs, and other

government agencies which provide focused, integrated regional training activities around STD prevention, reproductive health, family planning, addiction services, tuberculosis and viral hepatitis.[8] In 2014, HIV behavioral training and partner services training were redirected to other programs, leaving the NNPTC to focus solely on STD clinical prevention training.

In its current iteration, the NNPTC (officially rebranded the "National Network of STD Clinical Prevention Training Centers") is funded by DSTDP through 5-year competitive cooperative agreement cycles. NNPTC grantees include eight regional training centers which provide high-level training activities to clinicians across a multi-state catchment areas, and five national centers which offer specialty support in training coordination, curriculum development, evaluation, quality improvement, and technological innovation (Fig. 1). Training courses are based on the most accurate, evidenced-based information with regard to STD epidemiology, diagnosis, treatment, and prevention. Training center courses use a comprehensive approach to STD prevention using the most recent CDC STD Treatment Guidelines as the body of evidence for all training activities.[9] Course content has been broadened to include such topics as integration of HIV testing, linkage to care, and preexposure prophylaxis (PrEP); viral hepatitis screening and linkage to care; vaccination against hepatitis B virus and human papillomavirus vaccination and cervical cytology screening; and referral for behavioral health, family planning, addiction services, or other services as needed. In addition, training centers increasingly provide systems-level technical assistance to help increase the reach and improve the quality of STD clinical services in a variety of health system settings.

At the national level, curricular development has proceeded at a brisk pace, leading to the establishment of a high-level self-study program on a variety of different STDs complete with references, interactive board style review questions and continuing education credit (www.std.uw.edu). This has been further disseminated by means of a well-attended monthly STD Clinical Services Technical Cooperation Group videoconference program among STD experts (www.stdtcg.org), based on a Project ECHO (Extension for Community Healthcare Outcomes) model of health communication and interaction.[10] To assist providers in their clinical decision-making related to patient care, the NNPTC also offers real-time "warm line" consultation through the STD Clinical Consultation Network (www.stdccn.org), in which provider questions are routed to regional experts for advice and recommendations.

The reach and impact of NNPTC activities is impressive: over a 12-month period in 2016 to 2017, more than 500 classes and training events were held, attended by more than 27,000 participants. These activities were predominantly conducted in high-morbidity regions, in collaboration with training partners (including state and local health departments, other clinical training centers, medical associations, and other organizations) and in response to the needs identified by the various states served by the PTCs. Course evaluation data routinely demonstrate high levels of satisfaction with NNPTC trainings, and participants reported significant increases in confidence in their knowledge and skills related to training content.[11]

CHALLENGES AND OPPORTUNITIES

One of the most salient aspects of the NNPTC over time has been its ability to respond to changing training demands, and changing models of STD service delivery. Medical providers in all sectors are increasingly time-limited, and fewer clinicians have the time or travel funding to allow them to attend extended training courses. As a result, the original model of a 2-week, 80-hour course geared towards clinicians working full-time in public sector STD clinics, has given way to more targeted, focused training activities. As well, since more STD care is now delivered in private sector settings, training needs are increasingly extended to nonSTD clinic practitioners in community health centers, HIV care sites, emergency and urgent care venues, and other clinical sites. The NNPTC has responded with a host of shorter, focused, and tactical training activities to meet the needs of busy providers in a variety of clinical settings, including those caring for special populations at increased STD risk (adolescents, MSM (men who have sex with men), lesbian, gay, bisexual, transgender, queer. While NNPTC trainings increasingly rely on webinars, ECHO models, and other distance education modalities to extend their training reach, many courses still combine formal classroom training with skills-based, hands-on practicum experience in local STD clinical venues, albeit much shorter in duration.

Limited CDC funding for the NNPTC has also created certain challenges in efforts to meet the ongoing STD training needs of healthcare providers across the nation. Training funds represent a small fraction of the total CDC allocation for STD prevention, and funding levels have not increased in recent years despite rising rates of reported infections. In response, the training centers have utilized a variety of mechanisms to maximize training impact across their coverage areas. Regional training centers have often been able to leverage additional effort through collaboration with partnerships in public and private sectors. For example, many PTCs continue to collaborate closely with Health Resources and Services Administration-funded AIDS Education and Training Center (AETC) programs to provide integrated STD-HIV provider education.[12] Many PTCs also co-sponsor training activities with private medical schools, nursing schools, and healthcare systems within their region, often drawing upon the expertise of local faculty in those training activities. These collaborations provide expanded training audiences and opportunities for integration of training messages.

Another ongoing challenge remains the limited STD knowledge base of newly minted professionals coming out of medical, nursing, and advanced practice provider programs. Experts decry the lack of formal sexual health education at the pre-professional level, leaving major gaps in terms of healthcare provider knowledge and skills about STD diagnosis, treatment, and prevention.[13,14] The lack of provider-patient discussion about sexual health and sexual history has created many missed opportunities for accurate STD diagnosis, treatment, and management, including partner management and prevention messaging.[15] Very few medical schools offer substantial sexual health platforms for their students, leaving a void for programs like NNPTC to fill at the postgraduate level with regional in-person trainings and online resources such as the national STD curriculum. Add to this the ongoing changes in the field of STD diagnostic technology and new treatment and prevention approaches, and the universe of training need is vast indeed.

EVALUATION RESULTS

Efforts to evaluate training coverage and training impact have substantially improved in recent years. Previously, each regional training center provided information to CDC regarding the number of courses offered each year, the number of practitioners reached, and the types of practitioners and training settings in which they work. Training course participants typically demonstrated substantial increases in STD related knowledge, but measuring impact on clinical behavior has been more difficult. The establishment of the NNPTC National Evaluation Center during the most recent funding cycle creates an opportunity to develop more robust approaches to evaluating training impact at the national level. NNPTC now tracks not only number and types of practitioners trained, but also the awarding of continuing medical and nursing education credits, and self-reported provider changes in knowledge and awareness. Most importantly, the evaluation program now includes an assessment of national-level data regarding provider intention to change behavior related to STD care, including sexual history taking, screening for asymptomatic infection, and a host of other measures.

Preliminary assessments have shown that these activities have the potential to improve patient care outcomes in clinical settings. Dreisbach et al.[16] assessed STD training course participant knowledge, clinical skills, and practice patterns before training, immediately posttraining, and six months posttraining. Respondents demonstrated robust, statistically significant posttraining increases in STD-related knowledge, proficiency in communication and examination skills, and consistency of clinical practices such as sexual history taking and performance of STD screening tests. For example, trainees reported significantly greater frequency of performing four sets of recommended STD/HIV clinical practices including sexual history and risk assessment, screening asymptomatic persons with new or multiple sex partners, and performing specific laboratory tests for vaginal pool specimens and genital ulcers ($P < 0.05$).[16] Impressively, these increases were sustained at six-month follow-up, suggesting that the impact of training extends far beyond the immediate postcourse period. Similar sustained increases in STD-related knowledge and skills were demonstrated among NNPTC-sponsored training events targeting providers of care to persons living with HIV.[17] Data also suggest that NNPTC experiential “hands-on” training activities in clinical venues are still relevant and impactful in the digital age, with large numbers of respondents reporting sustained improvements in knowledge and clinical practice patterns as a result of practicum experiences.[18] Moving forward, the NNPTC’s broader national approach to evaluation should provide a more robust, detailed examination of training effectiveness and impact on practice change across a variety of settings as measured through electronic health record documentation of improved risk assessment, STD screening rates, delivery of culturally competent care, and rendering of timely treatment—all based on CDC treatment guidelines.

RESPONDING TO CHANGING ENVIRONMENTS

Fighting STDs requires flexibility in response: disease patterns and root causes of transmission change over time, research generates new insights (for example, on the role of social determinants of health), and new providers require education and updates. On top of

this, changes in the landscape of healthcare provision have significantly impacted STD health care seeking patterns. Categorical STD clinics provide care to some, but certainly not most patients with sexually transmitted infections. Increasingly, STD care is rendered in the private sector either by design (through increasing access to health insurance through the Affordable Care Act and expansion of Medicaid in many states) or by default (for example, in emergency rooms, walk-in clinics, and community health centers, particularly in Medicaid nonexpansion states). Also, STD-HIV co-infection is increasingly common, ramping up the need for HIV care providers to also serve as STD treatment and prevention specialists, and recent increases in reported rates of congenital syphilis and other STDs[4] emphasize the need for continued vigilance and training, and collaboration with maternal-child health providers.

Responding to these changing environments will continue to be a challenge for STD training efforts. In many high-morbidity communities, the promise of expanded private sector health care for low income patients has not substantially materialized,[19] and the NNPTC is continually reevaluating how and where to focus its training efforts. There remains an important need to maintain high-quality public STD clinical services,[20,21] and the NNPTC can be at the forefront of efforts to ensure the highest level of care for patients in these settings. As STD rates continue to climb, the training need is even more substantially felt.

THE FUTURE OF STD TRAINING

Looking forward, the NNPTC will need to address emerging challenges in order to reach provider communities of greatest need. In addition to the national STD curriculum development and dissemination activities already underway, a number of new technological innovations for STD prevention are also in the works, including mobile device applications, clinical templates, and risk assessment tools.[22] Online STD clinical consultation activities will continue to be promoted, and national evaluation activities will increasingly allow the network to respond to learner feedback in crafting targeted, more focused training activities to meet particular needs in specific regions.

Despite concerted STD prevention efforts, including the strategic work of the NNPTC focusing on providers in high STD morbidity jurisdictions and those providing care in STD specialty clinics, rates of reportable STDs have steadily increased in the past decade. This unprecedented rise has occurred amidst a declining public health infrastructure at state and local levels, with reduced hours or closure of STD specialty clinics, reductions in the disease investigation workforce, and limited advancement of effective primary and secondary prevention interventions. These worrying trends occur against the backdrop of a radical shift in HIV prevention from risk-reduction behavioral interventions to biomedical approaches that reduce and even eliminate HIV transmission: HIV treatment as prevention (TasP), preexposure prophylaxis (PrEP) and postexposure prophylaxis (PEP). STD care providers are becoming increasingly involved with the direct or indirect provision of these HIV interventions, and intensive follow-up to timely diagnose and treat incident STDs in these populations.

Regional training is one of the things that NNPTC does best and will continue to promote. Each PTC is knowledgeable about its own regional STD training needs and challenges, including specific characteristics of local STD service delivery systems. Direct contact and interaction with regional experts results in trainings that meet the needs of each jurisdiction with the greatest impact at the local level. For this reason, funding for regional PTCs no longer strictly follows Department of Health & Human Services region designations, but is rather more closely aligned with DSTDP core funding for STD prevention and control allocated to state and local health departments,[23,24] thereby facilitating greater engagement and collaboration to identify and meet training needs based on reported STD morbidity.

It is clear that navigating the environmental, cultural, and social factors that put individuals and communities at an elevated risk for STDs is complex and complicated, and changing the STD landscape will be challenging. To adequately respond to these challenges and new opportunities, STD care providers must enhance capacity and quality of services, including a welcoming and holistic clinical environment for vulnerable populations; routine sexual health history-taking; screening for substance use disorders, intimate partner violence, family planning and unstable housing, and linkage to these services as indicated; extra-genital chlamydia and gonorrhea testing; syphilis diagnosis and management; and basic laboratory services for STD differential diagnosis and timely treatment. Through its network and relationships, the NNPTC is uniquely positioned to support quality improvement efforts among STD care providers that will help meet the current challenges of the rising tide of STDs in the United States.

Appendix

Members of the National Network of STD Clinical Prevention Training Centers include.

Alabama/North Carolina STD/HIV Prevention Training Center, Birmingham AL

Laura Bachmann

Thomas Creger

William Geisler

Edward Hook III

Candice McN

Nicholas Van Wagoner

Apex Eval, Albuquerque NM.

Carlos Romero.

California Prevention Training Center, Oakland CA

Sharon Adler

Michelle Cai

Lindsey Clopp

Alice Gandelman

Holly Howard

Ina Park

Rosalyn Plotzker

Dominique Reminick

Juliet Stoltey

Denver Prevention Training Center, Denver CO

Teri Anderson

Helen Burnside

Allison Finkenbinder

John Fitch

Destiny Kelley

Oluyomi Obafemi

Danielle Osowski

Cornelis Rietmeijer

Terry Stewart

Christopher Voegeli

Karen Wendel

New York City STD/HIV Prevention Training Center, New York NY

Alwyn Cohall

Gowri Nagendra

Natalie Neu

April Canete Pavlish

Dina Romo

Jason Zucker

STD/HIV Prevention Training Center at Johns Hopkins, Baltimore MD

Khalil Ghanem

Bambi Hamby

Terry Hogan

Jeanne Hoover

Anne Rompalo

Susan Tuddenham

Barbara Wilgus

St. Louis STD/HIV Prevention Training Center, St. Louis MO

Kimberly Gray

Rachel Presti

Hilary Reno

Deloris Rother

Bradley Stoner

Shirley Williams

Sylvie Ratelle STD/HIV Prevention Training Center, Boston MA

Janine Dyer

Barbara Gray

Erica Hardy

Katherine Hsu

Sadie Phillips-Scott

Zoon Wangu

University of Washington STD Prevention Training Center, Seattle WA

Karin Bauer

Carlos Flores

Julia Freimund

Christine Johnston

Andrew Karpenko

Dana Kubilus

Bruce Maeder

Jeanne Marrazzo

Amy Radford

David Spach

Ronnie Staats

Centers for Disease Control and Prevention, Atlanta GA.

Laura Bachmann

Roxanne Barrow

Gail Bolan

Jami Fraze

Jennifer Fuld

REFERENCES

1. King A “These dying diseases,” venereology in decline? Lancet 1958; 1:651–657. [PubMed: 13515312]
2. Webster B. Education of medical students. J Am Venereal Dis Assoc 1974; 1:61–62.
3. Margolis S. Initiation of the sexually transmitted diseases prevention/training clinic program. Sex Transm Dis 1981; 8:87–88. [PubMed: 6894810]
4. Centers for Disease Control and Prevention (CDC). Sexually Transmitted Disease Surveillance 2017. Atlanta: US Department of Health and Human Services, 2018.
5. Handsfield HH. Lymphogranuloma venereum treatment and terminology. Sex Transm Dis 2018; 45:409–411. [PubMed: 29642122]
6. Stamm WE, Holmes KK. Chlamydia trachomatis infections of the adult In: Holmes KK, Mardh PA, Sparling PF, et al., eds. Sexually Transmitted Diseases 2nd ed. New York: McGraw-Hill, 1984.
7. US Department of Health & Human Services. Regional Offices. https://www.hhs.gov/about/agencies/regional-offices.
8. Federal Training Centers Collaborative (n.d.). https://aidsetc.org/directory/federal-training-centers-collaborative.
9. Centers for Disease Control and Prevention (CDC). Sexually transmitted diseases treatment guidelines, 2015. MMWR Recomm Rep 2015; 64: (No. RR-3).
10. Arora S, Geppert CM, Kalishman S, et al. Academic health center management of chronic diseases through knowledge networks: Project ECHO. Acad Med 2007; 82:154–160. [PubMed: 17264693]
11. National Network of STD Clinical Prevention Training Centers (NNPTC). Evaluation Report, Grant Year 3 (April 1, 2016 – March 31, 2017). Denver, CO: National Evaluation Center, 2017.
12. Khamarko K, Kang Dufour M, Bodach S, et al. Impact of AIDS education and training centers on the US HIV medical workforce. Am J Public Health 2016; 106:2190–2193. [PubMed: 27736204]
13. Coleman E, Elders J, Satcher D, et al. Summit on medical school education in sexual health: Report of an expert consultation. J Sex Med 2013; 10:924–938. [PubMed: 23551542]
14. Satcher D, Hook EW 3rd, Coleman E. Sexual health in America: Improving patient care and public health. JAMA 2015; 314: 765–766. [PubMed: 26087251]
15. Lanier Y, Castellanos T, Barrow RY, et al. Brief sexual histories and routine HIV/STD testing by medical providers. AIDS Patient Care STDS 2014; 28:113–120. [PubMed: 24564387]
16. Dreisbach S, Devine S, Fitch J, et al. Can experiential-didactic training improve clinical STD practices? Sex Transm Dis 2011; 38:516–521. [PubMed: 21233790]
17. Dreisbach S, Burnside H, Hsu K, et al. Improving HIV/STD prevention in the care of persons living with HIV through a national training program. AIDS Patient Care STDS 2014; 28: 15–21. [PubMed: 24428796]
18. Wangu Z, Gray B, Dyer J, et al. The value of experiential sexually transmitted disease clinical training in the digital age. Sex Transm Dis 2016; 43:134–136. [PubMed: 26766529]
19. Kotagal M, Carle AC, Kessler LG. Limited impact on health and access to care for 19- to 25-year-olds following the patient protection and affordable care act. JAMA Pediatr 2014; 168: 1023–1029. [PubMed: 25200181]
20. Golden MR, Kerndt PR. Improving clinical operations: Can we and should we save our STD clinics? Sex Transm Dis 2010; 37: 264–265. [PubMed: 20182405]
21. Golden MR, Kerndt PR. What is the role of sexually transmitted disease clinics? Sex Transm Dis 2015; 42:294–296. [PubMed: 25868144]
22. Scarborough AP, Slome S, Hurley LB, et al. Improvement of sexually transmitted disease screening among HIV-infected men who have sex with men through implementation of a standardized sexual risk assessment tool. Sex Transm Dis 2015; 42:595–598. [PubMed: 26372932]
23. Centers for Disease Control and Prevention (CDC). Improving sexually transmitted disease programs through assessment, assurance, policy development, and prevention strategies (STD AAPPS). https://www.cdc.gov/std/funding/aapps.

24. Centers for Disease Control and Prevention (CDC). Strengthening STD prevention and control for health departments (STD PCHD). https://www.cdc.gov/std/funding/pchd.

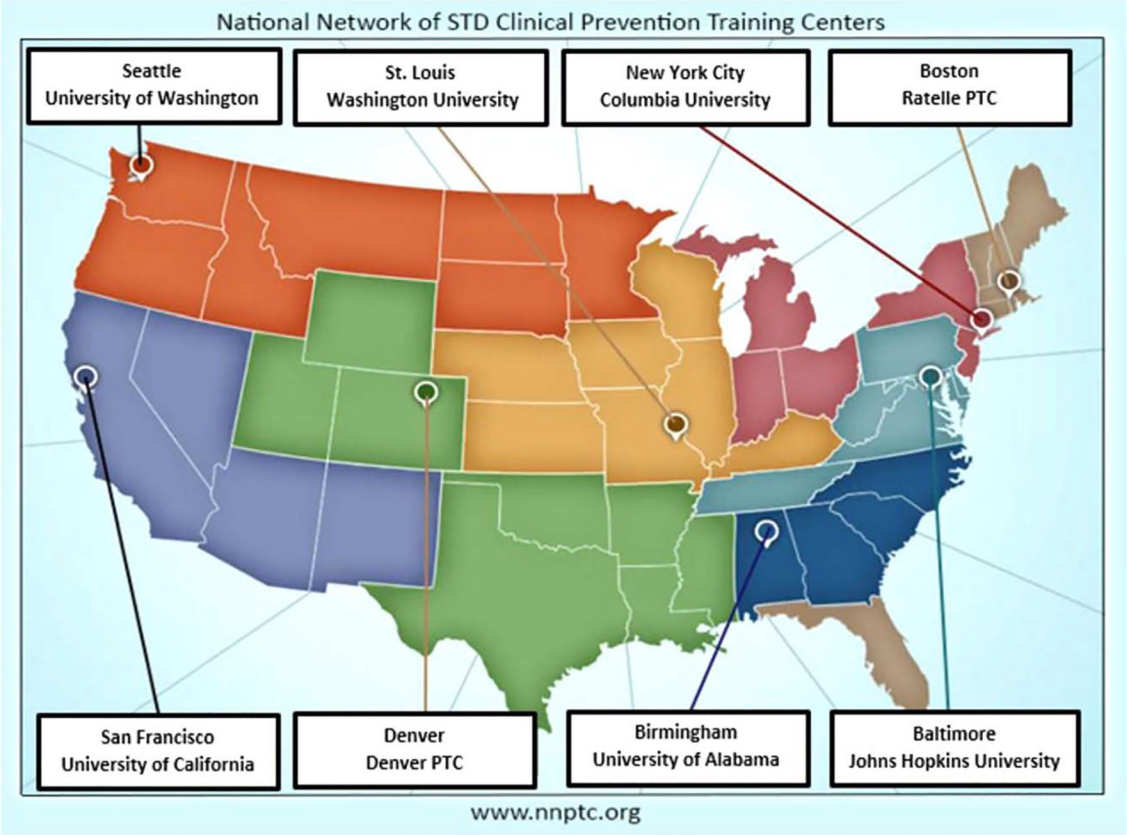

Figure 1.

Location of NNPTC Regional and National Training Centers, Regional Centers located in: Baltimore, Birmingham, Boston, Denver, New York, San Francisco, Seattle, St. Louis. National Centers located in: Albuquerque, Denver, San Francisco, Seattle.