TOGETHER WE CAN SEE SYPHILIS ELIMINATION EFFORT

The Syphilis Elimination Technical Appendix

Prepared by:
Division of STD Prevention
National Center for HIV, STD and TB prevention
Centers for Disease Control and Prevention
Department of Health and Human Services
MAY 2006

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1 Introduction

1.1 Background

Since the launch of the Syphilis Elimination Effort (SEE) in 1999, there have been tremendous changes in the epidemiology of infectious syphilis in the United States. Specifically, primary and secondary (P&S) syphilis rates reached their lowest point ever in 2000 with the numbers of P&S syphilis cases in women and in African Americans decreasing every year since 1990. During 2002–2003, P&S syphilis cases declined 23.6% in women and 17.8% in African Americans.

Despite these gains, the overall number of cases of P&S syphilis increased between 2000–2003, largely due to increases in men, associated with outbreaks in men who have sex with men (MSM). Today, syphilis remains a highly concentrated infection especially in the South and large urban centers. An estimated 60% of all new infections are occurring in MSM, many of whom are HIV positive and residents of large metropolitan areas.

1.2 The SEE Consultation—August 2005

In reframing the future direction for the SEE, it was important to conduct early and meaningful consultations with external stakeholders. The overall purpose of the August SEE consultation meeting was to provide key stakeholders with an update on completed SEE activities and achievements, and to solicit their input in framing future Syphilis Elimination (SE) strategies. Specific objectives of the meeting were to:

1. To provide stakeholders with an update on the current status of the SEE and achievements to date;
2. To explore the nature of elimination as it applies to syphilis, including new challenges facing the SEE in the 21st Century;
3. To identify best, promising, and innovative practices which might be relevant to future SEE; and
4. To identify new ways of framing the SEE based on a new understanding of disease epidemiology.

This document contains a selection of evidence-based position papers which provided background information for discussions during the consultation's plenary and break-out sessions. The papers also provided a basis for creating the future SEE 2006 plan.

1.3 How to use this document

This document contains discussion papers for the SEE consultation meeting. They are meant to provide essential background information on aspects of the SEE program, and to stimulate discussion and debate on the future of the strategy.

Each paper begins with an **Executive Summary** which summarizes the content and main points of the paper. The summary is then followed by the **Key Questions** which were considered in the consultation's break-out sessions. The papers then recap the strategies which were recommended in the 1999 National Plan to Eliminate Syphilis from the United States before providing an assessment of progress to date (where available). The papers also summarize the published literature relevant to the topic under consideration and on this basis make recommendations for the 2006 SEE plan. The standards for the 2006 SEE plan are presented with ratings. Each chapter ends by considering ways in which the strategy may be evaluated at local or national levels.

All material contained in this monograph was originally produced in support of the SEE Consultation meeting. The views expressed by the authors of the contained papers do not represent those of the Centers for Disease Control and Prevention (CDC).

2 Enhancing the role of surveillance in Syphilis Elimination

2.1 Executive Summary

I. Strong surveillance is the foundation for preventing and controlling syphilis.

II. SE must be based on sound surveillance. One cannot eliminate a disease if one does not know how much exists, where it exists, and in what populations.

III. Strategies for improving surveillance must include obtaining complete and accurate information on the sexual orientation of persons infected with syphilis.

IV. In addition, implementation of a new syphilis interview form should help provide a more complete epidemiologic understanding of persons infected with syphilis.

V. Every project area should have a plan for the regular analysis and dissemination of surveillance information. This should include the analysis of data by age, race/ethnicity, and sexual orientation at a minimum.

VI. The key to good national surveillance is good local surveillance. Project areas must have staff with surveillance and epidemiologic expertise and provide opportunities for epidemiologic training so that such expertise may be enhanced over time.

2.2 Key questions for the SEE Consultation Meeting

1. What steps can be taken to improve surveillance and epidemiologic capacity locally? In the short and long terms?
2. What measures should be taken to monitor adequacy of surveillance activities?
3. What steps can be taken to improve the collection of gender of sex partner information for all (>90%) early syphilis cases?

2.3 Definition and rationale for inclusion in the SEE 2006 Plan

Surveillance is the foundation for preventing and controlling all communicable diseases and this holds true for syphilis. Strong surveillance capacity must be in place so the epidemic can be characterized, interventions can be tailored to the populations at risk, and their impact monitored. The original goals of the National Plan to Eliminate Syphilis program were based on sound surveillance, to reduce P&S syphilis to 1,000 or fewer cases in the United States and to increase the number of syphilis free counties to 90%. Only when sound surveillance is in place can progress toward meeting the goals of SE be assessed.

2.4 Summary of issues as contained in the 1999 SEE Plan

Enhanced Surveillance was one of two **cross-cutting strategies** discussed in the 1999 plan.[1] Four surveillance objectives were identified:

1. Achieve complete, accurate, timely, and confidential reporting of reactive serologic tests for all cases of syphilis;
2. Analyze syphilis data regularly, effectively, and promptly;
3. Develop a framework for active syphilis surveillance and conduct active surveillance when needed; and
4. Evaluate syphilis morbidity by monitoring syphilis serologic reactivity and assessing risky behaviors.

A distinction was made between surveillance activities in high morbidity areas (HMAs) and potential re-emergence areas.

2.5 Assessment of progress and key issues facing the effectiveness of surveillance

In response to the 1999 National Plan, a national meeting was organized in March 2000 to develop guidelines for syphilis surveillance. The meeting was sponsored by the Division of STD Prevention (DSTDP), the National Coalition of STD Directors (NCSD), and the Council of State and Territorial Epidemiologist (CSTE). Meeting consultants included representatives from the 32 CDC funded SE sites and representatives from NCSD and CSTE. Consultants were assigned to one of five workgroups formed to address the following issues:

1. Case-reporting;
2. Prevalence monitoring;
3. Congenital syphilis;
4. Active surveillance and outbreak detection; and
5. Behavioral and social surveillance.

Recommendations were developed based on the workgroups' responses to key questions. In March 2003, the report, "Recommendations for Public Health Surveillance of Syphilis in the United States" was published.[2] In March 2005, CDC, after receiving approval from the Office of Management and Budget, requested that all states report gender of sex partner for persons reported with syphilis. To date, this information at the national level remains incomplete.

Assessments of the surveillance systems in 36 project areas were conducted via the SE Program Assessment, led by the Program Development and Support Branch (PDSB). A number of recommendations were made. Some important deficiencies identified during these assessments were the following: failure to apply the CDC/CSTE case definitions in a consistent manner. Syphilis cases were occasionally categorized and reported by stage at the time of treatment or interview, not at the time of initial examination. Cases were occasionally not reported at all unless treatment or interviews were complete. Project areas lacked epidemiologic capacity and training at the local level to conduct surveillance and proper supervision was often inadequate. Subsequent systematic reviews have not been conducted to reassesses whether improvements have occurred in each of these areas.

The purposes and uses of syphilis surveillance at local, state, and national levels are:

- To monitor rates and trends of infection.
- To identify outbreaks rapidly.
- To identify persons at high risk for syphilis and the affected communities in which they live.
- To identify characteristics of infected persons and generate hypotheses regarding risk factors.
- To identify gaps in health care and missed opportunities for interventions.
- To demonstrate the need for funding of syphilis control programs.
- To design and target interventions.
- To identify major providers or major laboratories that are or are not testing or reporting.
- To assure proper diagnosis, treatment, and partner management for all persons with early syphilis.
- To identify persons at risk for HIV infection.
- To assess the effectiveness of syphilis prevention and control programs.
- To assess patient management (ensure proper evaluation and treatment of persons with syphilis).
- To evaluate the effectiveness of prenatal syphilis screening in preventing congenital syphilis.

After a 90% decline in P&S syphilis during 1990-2000, since 2000 when the rate of reported P&S syphilis in the United States was the lowest since national reporting began in 1941, rates of syphilis have increased overall, but declined 53% in women and increased by 84% in men.[3] These increases are believed to be predominantly in men who have sex with men. Using the male-to-female rate ratio, estimates suggest that in 2003 men who have sex with men accounted for about 62%[4] of all P&S syphilis cases in the United States.

Because gender of sex partner information was not obtained nationally, it is likely that recognition of the national epidemic of syphilis in MSM was delayed. While outbreaks of syphilis in MSM were reported in local areas, overall increases in syphilis nationally were not identified until 2001. The failure to collect this information may also be obscuring the recognition of increases in syphilis in heterosexual men. It is believed the epidemic of syphilis among heterosexuals in the late 1980s was "not identified in a timely way because national data were aggregated and not systematically

analyzed by sex and risk behavior. This was because the decline in syphilis rates in men who have sex with men obscured the increase in syphilis among heterosexual men and women until a year or more into the epidemic."[5]

Currently CDC does not routinely and systematically assess the quality and usefulness of local surveillance data, nor does CDC request that such assessments be conducted locally. However, the quality of national surveillance data and its consequent usefulness is only as good as the quality of the data collected locally.

2.6 Key strategies for surveillance in the 2006 Plan

2.6.1 Collection of gender of sex partner information

The increase in P&S syphilis in MSM is a national, if not international, phenomenon, and yet little information about gender of sex partner is available nationally. The consequences of this have been delay in recognizing the increase in syphilis in MSM as a national problem and lack of information about what may be happening in heterosexuals. The complete and thorough collection of this information should be a high priority.

The SEE should recommend and support collecting gender of partner information on male cases with syphilis infection, recommended by the DSTDP, CDC, in 2005.

2.6.2 Collection of enhanced epidemiologic information

A key strategy for SE must be an epidemiologic understanding of those infected with syphilis. In collaboration with partners from CSTE, NCSD, state and local STD programs, CDC has drafted a new interview form that should be completed at the conclusion of each syphilis interview. The purpose of the form is not to collect new information but to capture information that should be routinely obtained in any good interview. The form should allow for systematic recording of that information and analysis. The primary benefit of this form should be at the local and state levels where the information should be most useful.

The SEE should recommend and support the effort to collect epidemiologic information in a systematic fashion so that it may be analyzed locally and nationally. STD-MIS and other STD information systems should be revised to collect these new data.

2.6.3 Regular analysis of syphilis data

In areas with substantial morbidity, surveillance data should be analyzed at least monthly to monitor changes in incidence or new patterns of disease. In low morbidity areas, cases should be reviewed as reports are received and a monthly overview should be routinely completed to monitor changes in incidence or patterns of disease. At a minimum, data should be analyzed by demographic and risk behavior characteristics. A plan for regular dissemination of information derived from the analysis of syphilis case-reported data and prevalence data should be developed at local, state, and national levels. A detailed description of the epidemiology of syphilis in each project area should be submitted to CDC annually. With the analysis of surveillance data at the local, state, and national levels, approaches and criteria for the identification of outbreaks should be developed.

The SEE should recommend the analysis and review of epidemiologic data at least quarterly, at a minimum by county, age, race/ethnicity, sex, and sexual orientation — by the local SEE coordinator, STD Program, and SEE Task Force (if present).

2.6.4 Epidemiologic training

To collect appropriate surveillance information and to correctly analyze, interpret, and disseminate it, project areas must have appropriate epidemiologic expertise on staff and opportunities for epidemiologic training so that such expertise may be enhanced over time. Innovative approaches for training and career development of STD surveillance personnel should be developed and supported at the national level and local levels. Some approaches may include these:

- Providing training for health department personnel in a variety of program areas (e.g., STD, HIV, or communicable diseases) and public health disciplines (e.g., epidemiology, biostatistics, and program management), to improve the capacity of existing personnel to conduct effective surveillance.

- Using a variety of training approaches (e.g., rotation of staff through "model programs," distance learning, train-the-trainer programs, teleconferencing, data analysis workshops).
- Encouraging NCSD and CSTE to work with CDC to help provide technical assistance to STD prevention programs that have a limited capacity to conduct syphilis surveillance.

Case reporting and prevalence monitoring activities require a variety of skills. Local, state, and federal public health agencies should cooperate to develop approaches for training and career development of STD surveillance personnel. Skills and areas that training should address include epidemiology, data management, information systems, data entry, basic disease knowledge, STD surveillance, outbreak detection and response.

In addition to case reporting and prevalence monitoring, there are specific personnel and training needs for active surveillance and outbreak detection:

- Each project area should collaborate with an epidemiologist.
- State and local health departments (HDs) should obtain funding to support an epidemiologist position for STDs even if not full time.
- Each project area should have an STD information management specialist.
- Each project area should have an STD surveillance coordinator.
- Each project area should communicate with their state epidemiologist to assure that the state epidemiologist is familiar with state STD epidemiologic data.

Epidemiologic expertise is necessary to help ensure that syphilis surveillance data are collected systematically, data are analyzed and interpreted appropriately, and that surveillance findings are disseminated effectively to promote the elimination of syphilis transmission.

The SEE should recommend that each project area hire staff with epidemiologic expertise and provide opportunities for epidemiologic training.

2.6.5 Case definitions

So that syphilis morbidity may be reported consistently over time and between sites, uniform case definitions that are adhered to in a consistent manner are important. Differentiating between early and late latent syphilis, however, can be difficult because it requires knowing whether a patient has been infected for more or less than a year. Health workers may make different judgments when there is uncertainty about the duration of infection.[6] Similarly, a patient with syphilis may meet the criteria for both neurosyphilis and a specific stage of syphilis since the two are not mutually exclusive. How the case is then reported may vary between health workers (personal communications). The case definitions for both latent syphilis and neurosyphilis should be reevaluated and simplified so that reporting may be done in a consistent manner.

State and local jurisdictions should adopt the CSTE and CDC surveillance case definitions for syphilis to ensure the quality and comparability of surveillance data.[7]

Syphilis cases should be categorized and reported by stage at the time of initial examination (which is often the time of initial specimen collection), not at the time of treatment or interview.

All cases of probable or confirmed syphilis should be reported as morbidity regardless of treatment or interview status. Stage determination should be based on available clinical and serologic information.

In the absence of symptom or serology history, sex partners for the last year should be evaluated to determine whether the case should be classified as early latent, late latent, or latent of unknown duration.

2.6.6 Reporting requirements

The following should be reported to the local health department within one working day by public and private providers and laboratories:

- All probable or confirmed cases of early (primary, secondary or early-latent infection) syphilis.
- All reactive, nontreponemal laboratory tests and confirmatory treponemal test results should be reported when available, but their availability should not delay reporting a reactive nontreponemal test result.
- Individuals with reactive serologies which are known or suspected of being associated with lesions should be contacted for follow up regardless of age, sex, or titer.

- All women with reactive serologies who are known to be pregnant should be contacted for follow up regardless of age or titer.
- All women of child-bearing age (less than 45 years of age) with reactive serologies should be promptly contacted for follow up, regardless of titer.
- All adolescents (< 20 years old) with reactive serologies should be contacted for follow up regardless of titer.
- Individuals with reactive serologies indicating a four-fold titer increase from a previous serology should be initiated for follow up regardless of age or titer.

2.6.7 Reactor grids

The reactor grid is an administrative tool used to prioritize follow-up of reactive serologic tests for syphilis where resources are limited.

Reactor grids should be evaluated annually or more frequently if the local epidemiology of syphilis changes. Prospective reactor grid evaluations should be completed at least every two to three years. In areas with substantial syphilis morbidity, reactor grids should be evaluated twice annually to assess the effectiveness and sensitivity of the grid.8, 9 In areas with little syphilis morbidity, reactor grids should not be used. Where grids cannot be evaluated, they should not be used.

2.6.8 Prevalence monitoring

The primary surveillance approach for syphilis is through national disease reporting of incident cases. Syphilis prevalence data should be used to assess the yield of specific screening activities by identifying the number of new cases detected in relation to the number of screening tests performed. In addition to screening assessments, syphilis prevalence monitoring at local, state and national levels can be used to: monitor disease burden and trends, identify populations with high rates of infection, and evaluate case-report surveillance data.

While surveillance must be tailored to the level of syphilis morbidity in a given jurisdiction, an important objective for national syphilis surveillance is to assure consistency of surveillance practices of states. In communities where syphilis has been absent for years, the focus of surveillance should be the identification of clinical symptomatic syphilis (primary syphilis presenting as genital ulcer disease or secondary syphilis presenting as rash). For such a focus, public health officials need to enlist the support of practicing clinicians who will be the first to see such cases. In such communities, serologic surveillance is not likely to be a particularly efficient approach.

For those communities with continuing endemic syphilis, the SEE recommends expanding serologic screening to high risk populations and implementing or enhancing many of the traditional surveillance and control activities. What constitutes a high risk population may vary depending on the epidemiology of syphilis in any given area and may include men who have sex with men or persons entering adult corrections facilities, or both.

2.7 Standards for syphilis surveillance

Table 1. summarizes the key interventions and the required standards for each intervention. These represent minimum standards. Project areas will be expected to report on the implementation of each intervention on a regular basis throughout the year.

2.8 Methods of evaluation

All project areas should submit an annual action plan detailing their activities under the above headings. This should include an evaluation of their syphilis surveillance systems.[10] These evaluations should include analyses of the timeliness and completeness of reporting from laboratories and large providers.

Regular visitations to laboratories and large providers may encourage improved reporting and help assess current underreporting. All project areas should submit an annual report describing the epidemiology of syphilis in their area. These reports should be completed with the participation and review of STD epidemiologists in each area. Annual reports of SEE activities should describe staff dedicated to syphilis surveillance activities, educational background, experience conducting syphilis surveillance, and recent training.

Table 1. Standards for syphilis surveillance

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B — Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• All project areas to routinely collect and report information on syphilis in MSM by end 2006.	A
• An assessment of the accuracy, completeness, sensitivity, promptness, validity, and quality of syphilis surveillance should be undertaken in accordance with Comprehensive STD Prevention Systems (CSPS) grant guidance.	B
• All project areas should implement the new syphilis surveillance data collection instrument by end of 2007.	A
• HMAs should produce an annual report containing an analysis of syphilis surveillance data and summarizing local SE interventions for stakeholders.	A
• Each HMA should ensure that syphilis surveillance staff has epidemiologic training and opportunities to improve training.	B
• CDC in partnership with stakeholders to review and produce updated guidelines on syphilis case definitions by end 2007.	B
• All HMAs should distribute syphilis case definitions and reporting requirements to local physicians and stakeholders on a regular, and as needed, basis.	A
• State and local HDs should document the use of reactor-grid evaluations appropriately.	B
• Where available, syphilis prevalence monitoring results should be reviewed on an annual basis.	C

3 Enhancing clinical services for Syphilis Elimination

3.1 Executive Summary

I. Prompt and high quality clinical management of individuals diagnosed with or exposed to infectious syphilis is a fundamental component for the prevention and control of syphilis.

II. National data collected by local HDs for surveillance purposes indicate that in 2004 a substantial proportion of sexually transmitted disease (STD) clinical service provisions in the United States were being performed by private providers. However, the dedicated public STD clinics continue to play an important role in providing low cost or free clinical care for individuals who cannot afford private health care.[11]

III. The public dedicated STD clinic faces many challenges in providing easily accessible and high quality care due to inefficient clinic flow, inadequate staffing, and other operational factors.[12,13]

IV. Private providers increasingly provide more of the STD services in the United States. However, the screening, treatment, and patient follow up according to recommended standards are less than optimal.[14]

V. The 1999 National Plan to Eliminate Syphilis from the United States stated that two objectives for expanded clinical and laboratory services are needed to achieve SE:
   1. Provide accessible and timely client-centered counseling, screening, and treatment services in sites frequented by populations at risk for syphilis; and
   2. Ensure high quality syphilis preventive and care services.

VI. Access to STD clinical services and high quality prevention and care services remain the two key objectives to address and monitor.

3.2 Key questions for the SEE Consultation Meeting

1. How has the need for clinical services changed with the shift in the syphilis epidemiology and how can we efficiently respond to these needs?
2. How do we ensure sustained STD clinical services for underserved population?
3. How can we improve testing, diagnosis, and reporting by private providers? How do we better target guidance to the appropriate provider populations?

3.3 Definition and rationale for inclusion in the 2006 Plan

Clinical service provisions for syphilis include early access to care, accurate diagnosis, appropriate treatment, patient counseling, partner management, and follow up. Prompt quality clinical management of individuals diagnosed with or exposed to infectious syphilis is a fundamental component for the prevention and control of syphilis. Because syphilis is an easily treatable bacterial infection, effective clinical care is an important factor in interrupting transmission.

National data collected by local HDs for surveillance purposes indicate that in 2004, a substantial proportion of STD clinical service provisions in the United States were being performed by private providers. However, the dedicated public STD clinics continue to play an important role in providing low cost or free clinical care for individuals who cannot afford private health care.[11] The public dedicated STD clinic faces many challenges in providing easily accessible and high quality care due to inefficient patient flow, inadequate staffing, and other operational factors.[12,13] Private providers increasingly provide more of the STD services in the United States. However, the screening, treatment,

and patient follow up according to recommended standards are less than optimal.[14]

3.4 Summary of intervention as outlined in the 1999 Plan

In the 1999 National Plan to Eliminate Syphilis from the United States, expanded clinical and laboratory services was one of the three intervention strategies described. HMAs were encouraged to address two objectives for this intervention in an effort to eliminate syphilis:

1. Provide accessible and timely client-centered counseling, screening, and treatment services; and
2. Ensure high quality preventive and care services. The specific activities for each of the activities included participation from state or local HDs, jails, public and private laboratories, community organizations, CDC, other federal agencies, and the American Social Health Association (ASHA).

3.5 Assessment of progress to date

A review of clinical services in 36 STD clinics was conducted by the CDC as part of the National SE Program Assessments from 2000 through 2003. The assessments of clinical services included a review of clinic access, clinic operations, clinic staffing and training, patient counseling, and clinic services provided in settings external to the STD clinic. The assessments identified several successes and challenges.[12,13]

Literature review

National data collected by local HDs for case management and surveillance purposes indicate that case detection by reporting source has changed from 1999 to 2004. The proportion of P&S cases, in males, identified in STD clinics has decreased from 48% of all cases in 1999 to 33% in 2004; conversely the proportion identified by private providers has increased from 17% of all cases in 1999 to 31% in 2004 based on National Electronic Telecommunications System for Surveillance (NETSS) data. Cases identified in non-traditional screening sites comprise a very small proportion of all reported P&S cases in males: drug treatment facilities 0.17%, HIV counseling and testing sites 2.6%, emergency departments 3.5% and jails 4.8% (NETSS). The proportion of P&S cases, in females, identified in STD clinics has decreased from 42% of all cases in 1999 to 35% in 2004; conversely the proportion identified by private providers has increased from 18% of all cases in 1999 to 21% in 2004 (NETSS). Non-traditional screening sites comprise a very small proportion of all reported P&S cases in females: drug treatment facilities 0.28%, HIV counseling and testing sites 0.6%, emergency departments 4.7% and jails 8.0% (NETSS). In a study of two cities with heterosexual outbreaks of syphilis, private providers identified the largest number of female cases. However, more high-risk women were identified through jail screening. Jail screening identified the largest number of male cases while the STD clinic identified the most high-risk men. Partner notification identified relatively few male or female high-risk cases.[15]

Review of the 32 sites originally funded for SE showed that 29 (79%) planned to implement syphilis screening in their local jail. From 1999 to 2002, 7725 (12.5%; range 0 to 50%) of 63,293 early cases of syphilis reported to the CDC were identified in corrections facilities.[16] The proportion of all cases identified in corrections was significantly higher in areas with heterosexual transmission than those with transmission between men who have sex with men. Syphilis screening is occurring in some U.S. jails. However, the magnitude of jail screening has not been systematically measured since 1998. Data from 1998 found that less than one half of jails (47%) required routine syphilis screening, and in jails with routine screening, less than one half of arrestees were screened because their average length of stay was roughly 48 hours.[16]

Data from a national survey of U.S. physicians found that STD screening levels are well below recommended guidelines and that case reporting is below the level legally mandated.[14] In addition, the survey found doctors were less likely to treat syphilis patients presumptively, but more likely to do case reporting, and follow up on partner management than for gonorrhea or chlamydia patients.[17] Data from a large commercially insured population of women also found lower than expected prenatal syphilis and HIV screening rates.[18] Community-based screening programs have yielded varying levels of syphilis prevalence. Programs in Baltimore and Baton Rouge that targeted "risk spaces" (e.g., sex partner meeting places) and primarily heterosexual populations, reported that these initiatives were feasible, acceptable to community members, and identified

Table 2. Successes and challenges in enhanced clinical services

Successes	Challenges
• Written clinical protocols available in most clinics. • Partnerships between local HDs and private providers have been established. • Consistent provisions for syphilis testing.	• Efficiently scheduling patient appointments to minimize patient wait times and "turn-aways". • Maintaining adequate staff coverage due to vacancies, high turnover rates, vacations and lunch closures. • Timely turnaround for test results and updating medical records.

Table 3. SE program assessments lessons learned & emerging best practices for clinical services

Lessons learned (Table 3 Column A) and emerging best practices (Table 3 Column B) were also identified from the assessments.

A. SE program assessment lessons learned	B. SE program assessment emerging best practices
• Clinic flow barriers may be addressed and reduced by establishing appropriate patient tracking mechanisms, evaluating the results, and applying the findings to clinic operations. • Registration procedures that require minimal information and/or occur in private areas, enhance confidentiality. • Formal, up to date, referral systems are a key component of coordinated service delivery. These referral systems are best communicated through easy to use handbooks, telephone "hotlines" and websites. • Patient satisfaction survey data should be used to enhance clinic services. • Quality assurance mechanisms such as signed staff statements regarding the reading and comprehension of clinical protocols, may improve the compliance with the protocols. • Regular evaluation of data entry forms and procedures is vital to enhancing clinical services. • Formal protocols that improve clinic flow have a direct effect on the quality of care provided during the clinic visit and through case follow up. • Initial training and regular updates in critical skill areas are an essential aspect of staff training and adequate service delivery. • Assigning DIS personnel to clinic settings improves case follow up and overall patient treatment.	• Providing easy access to written protocols in the form of small booklets, posters, and other easily accessible media. • Developing operational protocols that are specific to the types of treatments and conditions regularly faced by the site. • Conducting regular visits and inspections of reporting laboratories to encourage the availability of and compliance with operational protocols. • When resources are available, designating a staff person to supervise laboratory and clinic protocol issues to enhance compliance with operational protocols. • Requiring clinic and laboratory staff to sign statements verifying the review and comprehension of relevant operational protocols.

high-risk individuals that may not be reached through traditional methods.[19–21] However, reports of non-traditional screening in bars and bathhouses in areas with predominantly MSM syphilis transmission found that these programs were marginally feasible and identified very few cases.[22]

Published reports found that STD clinics that require even a modest fee for services negatively affect the use of STD clinic services and may impact those at greatest risk the most.[23] STD clinic patient perceptions of STD services in a public clinic were evaluated in one report and found that clinical care was rated high but that patients were concerned about confidentiality and stigmatization by non-clinical "front desk" staff.[24] In another report, individuals had favorable opinions of STD clinics.[25] Study participants expected STD clinic staff to be respectful, the cost to be low, wait time not to be too long, and no difficulty in getting to the clinic.

CDC-sponsored activities

Upon request, technical assistance has been provided to STD clinics by staff from the CDC or the National Prevention STD/HIV Training Center. Technical assistance included on-site training, patient flow analysis, and training on the provider material in the SEE Community Mobilization Guide Tool Kit.

The Centers for Disease Control and Prevention National STD/HIV Hotlines provide STD information and referrals to callers. The hotlines are a 24-hour toll free service and are provided in both English and Spanish. Most of the referrals are to public health clinics for STD services.[26] The quality of information contained in the provider/clinic list requires constant updating of contact information to ensure prompt and accurate linkage for individuals seeking STD services. As of February 2005, the hotline is operated through CDC-Information.

The National Network of STD/HIV Prevention Training Centers (NNPTCs) is a group of regional training centers created in partnership with HDs and universities, and funded under a cooperative agreement from CDC. Within the NNPTCs, 10 centers provide STD clinical and laboratory training. In the program year, from April 1, 2005 to March 31, 2006, the clinical prevention training centers (PTCs) provided over 10,000 hours of training to over 21,000 students nationwide. Students include practicing clinicians from HDs, private practice, and other settings. The PTCs are dedicated to increasing the knowledge and skills of health professionals in the areas of sexual and reproductive health. The NNPTCs provides health professionals with a spectrum of state-of-the art educational opportunities, including experiential learning with an emphasis on prevention. On-line STD courses for community members, health care providers, and educators are also available.

The STD Faculty Expansion Program (FEP) currently funds four U.S. medical schools. The purpose of this program is:

1. To provide STD training and education by developing faculty positions dedicated to the area of STD clinical care, prevention, and control in medical schools where such clinical or research expertise does not exist; and
2. To support the development of linkages between HDs and medical schools in the area of STD prevention through jointly appointed staff who strengthen health department STD programmatic activities by undertaking clinical care, research, and teaching responsibilities.

Self-Study STD Modules for Clinicians and Ready-to-Use STD Modules for Clinical Educators are available on the CDC website. Syphilis is one of seven web-based STD education modules available on the CDC website. The self-study modules are interactive and include study questions to aid in learning and retention of information. After completion of a module, learners may apply to receive continuing education credits. From January 2005–May 2005, the homepage of the Ready-to-Use STD Modules for Clinical Educators syphilis module had 3,077 page views. Page views are not available for the Self-Study STD Modules for Clinicians. However, visits to the CDC website for Self-Study Modules compared to the Ready-to-Use Modules are typically at a ratio of 2:1. Therefore, it is estimated that there were over 6,000 page views on the syphilis home page of the Self-Study Modules during this period. Case studies series including syphilis are also available on-line.

The Centers for Disease Control and Prevention National STD/HIV Hotlines has provided informative materials that encourage safe sex behaviors and promote screening ant treatment. Materials are culturally sensitive and speak effectively to target audiences. As of February 2005, the hotline is operated through CDC-Information and these materials will be distributed through CDC-Information.

The SE Program Assessments also included components relevant to quality of syphilis care. The findings are contained in Table 2 and Table 3 above.

3.6 Key issues facing the effectiveness of clinical services

A large proportion of STD clinical services in the United States are being provided in the private sector. Screening, testing, treatment, case reporting and patient follow up according to recommended standards are not optimal in this sector of health care.[14] However, state and local HDs have limited influence in these settings to enforce compliance with the recognized standards. Dedicated STD clinics often serve the poor, uninsured, or underinsured clients. Access to these clinics is limited because they are usually located in public HDs and the hours of clinic operation are frequently determined by the general hours of the facility housing the clinic.

Nurse clinicians are key providers of care in the dedicated public STD clinics. The rapid turn over of staff and time limitations for training, greatly affect the quality of care in this setting. Staff coverage for expected and unexpected absences is a challenge for many public STD clinics and can create barriers for individuals accessing these clinics.

The lack of rapid confirmatory testing for syphilis limits the capability of clinicians to make an immediate diagnosis. With the availability of rapid HIV testing, having rapid confirmatory testing for syphilis as an option, would likely improve patient compliance with testing and reduce the time between diagnosis and treatment. The limited treatment regimens, the periodic shortages of benzathine penicillin and inadvertent use of other benzathine penicillin preparations have also been problematic in effectively managing patients with syphilis.

Inefficient information technology systems in public STD clinics often contribute to delays in providing timely STD care.[13]

Standard and systematic collection and evaluation of the benchmarks outlined in The National Plan to Eliminate Syphilis from the United States — 1999 is lacking. Therefore, the ability to effectively determine the progress on the activities is limited.

3.7 Key strategies for clinical services for the SEE 2006 Plan

3.7.1 Improve access to STD clinical care

Access to effective clinical care is paramount for early diagnosis, treatment, and patient counseling for syphilis. However, financial, structural, and personal barriers can limit access to STD health care services. Financial barriers include not having any health care coverage, not having health care coverage for preventive health services, or having no resources to pay out-of-pocket fees for services.[23] Structural barriers include the lack of health care facilities, or the lack health care providers that provide STD services; or long wait times.[24] Personal barriers include cultural differences, language barriers, not knowing what to do or when to seek care, or concerns about confidentiality or discrimination.[25]

To improve the means of measuring STD clinic accessibility, the SEE should recommend that state and local HDs document the number of clients turned away and the length of wait times at public STD clinics.

To expand access to STD services in HMAs, the SEE should encourage state and local HDs to assess and increase the proportion of local HDs that have contracts with non-traditional health care facilities (managed care providers, community-based, emergency departments) for the treatment of patients and partners of patients with syphilis.

3.7.2 Improve quality of care

The Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services (DHHS), defines **quality of care** as the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. Quality of care ensures a provider, clinician, or health care facility competently and safely delivers clinical services that are appropriate for the patient in the optimal time period.

To ensure that high quality care is maintained in public STD clinics, the SEE should recommend that CDC in collaboration with state and local HDs develop a quality assurance tool for clinics to use to monitor key activities (complete STD physical examinations, appropriate treatment, patient follow up completed, and partner management/referral) are followed according to recognized standards.

To ensure that syphilis screening is performed according to recognized standards, the SEE should recommend that the state and local HDs:

- Document the number of syphilis tests performed annually in public and private laboratories and measure the time to reporting results to providers and HDs.
- Increase the proportion of pregnant females screened for syphilis during prenatal health care visits, according to recognized standards.
- In geographic locations where transmission is primarily in MSM populations, increase the proportion of clients screened routinely for syphilis in HIV care providers.
- In geographic locations where transmission is primarily in heterosexual populations, increase the proportion of inmates screened for syphilis in local jails, with an emphasis on women.

3.8 Standards for clinical services for Syphilis Elimination

Table 4. Standards for interventions aimed at improving clinical services for syphilis control

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• All HMAs should maintain monthly sentinel surveillance of access to care measures. Data should be reported in the annual (project period) grant progress report.	B
• All HMAs should describe current agreements between local HDs and non-traditional health care facilities biannually. Increase the proportion of local health with contracts yearly. Report status in future project period (annual) progress reports.	B
• 90% of all STD clinic attenders should be screened for syphilis. • >90% of STD clinic attenders diagnosed with an STD (other than syphilis) should be screened for syphilis.	C
• CDC in collaboration with all HMAs to develop a clinical quality assurance tool by end 2007. • All HMAs should report status in implementing the tool in future project period (annual) progress reports.	B
• All HMAs should collect and review monthly syphilis testing data on a quarterly basis. • These data should be reported in project period (annual) progress reports.	B
• Syphilis screening in pregnancy should be done at first prenatal visit. Where indicated, additional screening may be done early in the third trimester and at delivery.[27] • All HMAs should collect data monthly. • These data should be reported in project period (annual) progress reports.	A
• Screening in MSM - at least annually in sexually active MSM or every 3-6 months in MSM at high risk.[19] • All HMAs should collect data monthly. • These data should be reported in project period (annual) progress reports.	A
• National guidelines recommend screening arrestees for syphilis within 14 days of incarceration.[1]	A

3.9 Methods of evaluation of clinical services for syphilis elimination

All project areas should submit an annual action plan detailing their activities under the above headings. Ideally, HMAs should select at least one clinical intervention for auditing per annum. Biannual reports on progress towards improving clinical services should be submitted to program consultants for review.

4 Partner services and case management

4.1 Executive Summary

I. Disease Intervention Specialist (DIS) referral, when appropriately practiced helps control syphilis infection rates.

II. Data indicate DIS referral is not operating at optimal levels, so improvements and alternatives are required.

III. Such improvements and alternatives include enhance interviewing techniques; network generation and maintenance; use of peer networks to find cases; location of DIS in sites diagnosing P&S syphilis; and concentrating on finding infectious cases (i.e., P&S interviews).

IV. DIS can organize and oversee many of these improvements and alternatives (and ought to be the primary liaisons between public health and other entities).

V. Data collection and definition for internet and other electronic referral strategies need examination.

VI. Laws pertaining to which entities are permitted to conduct partner notification (and how) need examination. This will inform the nature of collaborative efforts.

VII. Collaboration on a national level will make partner notification more efficient. Public/private collaboration in health fields plus community involvement both count toward suitable collaboration.

VIII. There are inadequate national level data collection and analysis at present; but this may change.

IX. Notification efforts as elimination (< 1000 cases per annum) approaches are likely to become relatively expensive on a per case basis.

4.2 Key questions for the SEE Consultation Meeting

1. What level of collaboration can be expected in jurisdictions conducting partner notification? What will CDC contribute? This applies to sharing strategies, and to sharing data and resources for evaluation.
2. How willing are those conducting partner notification to permit partner elicitation and notification in non-health department settings? How willing are they to train and allow non-health department personnel to conduct any part of the partner notification process?
3. What are the minimum data required to evaluate strategies? How much of this prospective data collection falls outside the boundaries of standard collection? What would be the remedy?
4. What is the appropriate role of cost analysis in partner notification in an elimination campaign?

4.3 Definition and rationale for inclusion in the 2006 Plan

The following summary of partner notification is drawn from the CDC Program Operations Guidelines (POG) and the STD Employee Development Guide.[28,29] The general point of partner notification is to control infection (thereby reducing incidence and prevalence) through reducing the proportion of infected persons in the population. More efficient and feasible than screening and treating the entire population is to focus upon persons more likely than others to be infected with syphilis: the most clearly elevated rates are in those who are sex partners of persons known to be infected. Hence the rationale for partner notification (note the principle could apply to any communicable disease spread through personal contact).

Specific operationalizations of the general point are to find, notify and treat infected persons and those who could be incubating syphilis (prophylaxis treatment). This is partner notification. There are two widely practiced mechanisms through which partner notification is most commonly practiced: asking infected persons to notify their partners (self or patient referral) and assigning notification to public health professionals (provider referral). Those public health professionals are most commonly known as DIS. Because this form of referral is considered the gold standard for syphilis partner notification, we will use DIS referral as terminology for public health-practiced provider referral. A third type of referral is called contract (or conditional) referral. This terms refers to the practice of contracting with infected persons to use self referral for a criterion period of time, after which those partners who have not been demonstrably notified will be contacted through DIS referral.

Table 6 contains terminology and definitions that help explain the processes of partner notification with particular respect to DIS referral. We emphasize DIS referral in particular because DIS referral, when practiced appropriately, is our "gold standard" for syphilis control — effectiveness data are summarized below under **Other Effectiveness data: Background**. The left column refers to the data collected during the notification process from the initial interview of infected persons to the final disposition of the case. The right column contains the terminology applied to those data and useful basic statistics for evaluating the strength of partner notification throughout the process. Dispositions are the final outcomes of partner notification for partners. See the POG for more details than are in Table 6.

One more class of definition is appropriate for syphilis partner notification. At this point, syphilis is a geographically concentrated disease that is also concentrated in relatively small groups of people. Per geographic concentration, high prevalence rates may be nationally disparate (i.e., California and North Carolina both contain high prevalence areas), but syphilis is found in much smaller pockets in both those states than is, for example, gonorrhea. In 2003, 99.9% of P&S syphilis was found in 19% of U.S. counties, with half of those numbers found in 18 counties and one city.[30] Moreover, subsets of people are infected or have elevated likelihood of becoming infected, even controlling for geographic prevalence. To date, we have used principally broad markers to delineate subset risk levels. For examples, African American/Black status and being a man who has sex with other men are two otherwise heterogeneous categories that connote elevated risk of syphilis acquisition and transmission. Overall rates of syphilis are in fact higher in those two groups. But not all (or even many) Black people or MSM are at empirically elevated risk. Only those who are sexually active in high prevalence settings, with that sexual activity occurring mostly with other members of the category are at elevated risk. The disease is maintained within such groups through assortative sexual mixing[31,32] and the general limits of the epidemiologic equation as also applied to health care.[33]

We develop this characterization of syphilis as a relatively rare disease concentrated in behaviorally defined subsets of the U.S. population (even if those subsets are sometimes correlated with racial and socioeconomic markers) because the characterization is relevant to some prior and proposed areas for intervention in partner notification.

4.4 Summary of intervention

The 1999 National Plan[1] refers to the DIS model with a brief description (pages 17–18). The "intervention" over and above basic DIS referral is to include (a) cluster interviewing and social network analyses, and (b) health promotion interventions with community endorsement embedded in the partner notification process. The logic is defensible in that the continuing geographic concentration of sexually assortative groups with frequently poor overall health suggests that reaching more than just sex partners of infected group members as well as improving their overall health is plausibly beneficial to infected persons and to syphilis control. That is, both personal and public health goals are met.

4.5 Progress assessment

We have noted that DIS referral, when practiced appropriately, is the best intervention for syphilis control. The 1999 plan implicitly endorsed that assumption. What we present in this section are data that speak to whether DIS referral is **actually** controlling syphilis, first in terms of implementing the 1999 intervention plan, and then broadly, using what effectiveness data exist. The results should inform future plans to provide optimum partner notification for syphilis.

The 1999 Intervention

SOCIOSEXUAL NETWORKS

The POG contains a summary of the rationale for sociosexual network collection and analysis of data, while more detailed approaches are also published in reviews and retrospective evaluations.[34,35] The rationale for sociosexual network approaches to partner notification are that, in areas of high prevalence, contacts of infected persons are not as likely to be limited to sexual contacts as they are in low prevalence settings.[34] Therefore, interviews of infected persons — or even persons plausibly at risk for infection — should include other social contacts (roughly as per clustering) as well as information about the interviewee's social life. The few data are available to evaluate a network approach to partner notification suggest the approaches are feasible and acceptable. In Atlanta, Rothenberg et al. reported the outcome of a social network approach to outbreak control.[36] DIS were trained and spent large amounts of time (up to 80% of working hours) in street settings, interviewing infected persons and others for drug use partners and important social contacts as well as for sex partners. (DIS also performed their routine sex partner elicitation duties in clinic settings.) Of 98 people interviewed, 48 were known to be infected at the time. The 98 named an average of 3.0 sex partners (the partner index) and 2.7 other contacts. Contacts of the 48 infected cases yielded 30 further syphilis infections from 130 sex partners and 9 from 153 other contacts. Contacts of uninfected persons yielded 2 infections among 37 sex partners and 4 out of 76 other contacts. In sum, social contacts of infected persons yielded a 30% increase in case-finding, while interviewing uninfected persons yielded a further 6 cases in a sample with 5.3% (6/113) prevalence. Clearly the prevalence is lower among every category of interviewee other than sex partners of infected persons, but the increase in cases found, 9 + 6 = 15, or 50%, was useful from a public health standpoint. Network diagrams revealed several heavily embedded members of the overall sociosexual network, who could be useful to interview in subsequent STD outbreaks. What we still lack is a sense of how reasonable these results, drawn from a high prevalence area with poor health care, are if compared to typical national data.

Also helpful is larger scale sociologic and sociodemographic information about the interviewee's physical and social ecology. Such variables have been associated with STD prevalence[37] and can inform larger scale investigative efforts. Even geographic information defining core areas alone has been historically useful in gonorrhea control efforts.[38] Retrospective evaluations have been used to link small nominally unconnected groups[35] and to predict changes in endemicity accurately.

COMMUNITY INVOLVEMENT

Community endorsement applied to health promotion intervention in the partner notification process has been poorly studied prior to SE efforts, especially with respect to outcomes. There are few data from community-endorsed health promotion efforts that pertain to partner notification and consequently little evaluation. One example of community involvement in partner notification is the potential for DIS (or possibly DIS-trained interviewers) to go to sites where syphilis is diagnosed — this may be especially important for MSM-centered outbreaks because cases are frequently diagnosed outside the public sector. In Chicago, Gratzer, Ciesielski and colleagues have evaluated the placement of a DIS (who was an employee of the health center) at a health center diagnosing 16% of all P&S syphilis in their jurisdiction.[39] A case audit that included Health Department-tracked cases revealed that fewer cases were lost to follow up via the health center DIS, 5% vs. 40%, $p < .01$. Of those followed, the health center initiated interviews fastest and elicited more partners, with mean time between treatment and interview at 8 days (partner index = 1.14), compared to 29 days for the health department (partner index = 0.46). The study illustrates the benefit of locating DIS where cases can be found. Other forms of community involvement include informing communities of prospective and ongoing efforts; seeking advice on the content and procedures of those efforts; and incorporation of communities into the actual implementation of efforts.

Other Effectiveness Data: Background

Brewer recently reported two statistics based on 18 reports between 1975 and 2004.[40] Case-finding indices for syphilis partner notification ranged between 0.05 – 0.46, with a median of 0.22 (or an NNTI of 4.55). In terms of proportion of sex partners who were infected, the range was 1% – 23% and the median was 8%. (Note this excludes previously diagnosed positive cases.) Other systematic reviews have concluded provider referral (i.e., DIS referral) is the most effective strategy for partner notification, although these reviews have been largely insensitive to cost.[41-43]

Local estimates are available from Indianapolis, IN and Nashville, TN (Table 7). From 1997 to 2002, partner notification resulted in the identification of approximately 20% of all early cases in Indianapolis, 10% of all cases in Nashville, and roughly 10% of high-risk cases in both sites. Across sites, the brought-to-treatment indices were close to 0.25 for interviews of P&S cases and somewhat lower for early latent interviews. These statistics are similar to those from Brewer.[40] As shown in Table 7, partner notification interviews of P&S cases identified significantly more infectious cases than interviews of early-latent cases. Notification of social network contacts (i.e., clusters) yielded 2% of all cases in Indianapolis and less than 1% of all cases in Nashville, much lower than in Atlanta. In Indianapolis, there were 1,106 clusters identified, of which 45 (4.0%) were newly diagnosed cases. In Nashville, 21 (3.5%) of 599 clusters were newly diagnosed cases.

Alternative recent data can be found via a national probability sample of physicians' STD diagnosing, reporting, and partner notification practices conducted in 1999–2000.[17,44] Physicians were generally (a) more likely to employ patient referral than anything else, and (b) viewed patient referral more favorably than provider referral. When syphilis alone is broken out, we see that physicians basically follow sound clinical management, but do not get involved in provider referral (Table 8). Many physicians in the survey relied on labs to report cases, which frequently induces delay in partner notification. When syphilis is often diagnosed privately, as with MSM, timely partner notification may suffer,[45] although notification process statistics are often quite similar except for case-finding (Table 6).[45,46]

However, the contact and notification indices do not tell the whole story — for example, infected MSM frequently claim large numbers of period partners. Therefore, a much smaller fraction of partners were contacted than a statistic such as the notification and contact indices indicate. Data for the eight-city study with period partners as the denominator (see Table 6) yields a "pseudo-notification" index of 0.14, approximately a seventh of the nominal value.[46]

What these data suggest is that DIS referral is not yet working at an optimum level, although they do not tell us why. Too small a proportion of partners is investigated, and contact and notification index estimates are frequently well below one partner contacted per index case, as shown above in both large scale and local reviews of data. National summaries of case definition statistics from clinics also speak to this issue. Concerning the proportion of cases seeking care, the theoretical yield from clinic data should be at least 50% of cases classified as contacts — a minimum of one partner per previous infection. This is analogous to expecting a minimum of 1.0 for a contact or notification index. Numerous practical and data management issues interfere with this expectation (e.g., people not reporting themselves as contacts), but the average proportions of infected persons seen as a result of DIS referral between 1999 and 2004 ranged between 6.5%–10.9% for males and from 11%–14% for females. Moreover, the demographics of early latent cases frequently do not match those for P&S cases, indicating that some groups are not detected and managed in their most infectious status. This in turn affects the true effectiveness of partner management — partners of P&S cases cannot be notified by DIS if those cases are not diagnosed in those stages.

Other effectiveness data: Interventions

INTERVIEWING TECHNIQUES

A 2000–2001 randomized trial examined the effects of more intensive interviewing techniques upon partner recall of both names and identifying information.[47] Participants were index cases who had more than one partner. Using a series of cues based on location, roles, the alphabet, and networks, DIS elicited 21% more partners than through the standard interview alone. Cues using first names and individual characteristics were less successful (7–9% increases). The techniques yielded a 9% increase in case-finding (infected, not previously treated).

PEER-DRIVEN CLUSTER REFERRAL

King County (Seattle, Washington) piloted a peer-driven referral program based around MSM with STD, who referred peers whom they thought were at risk.[48] Persons were enrolled, if interested, if they were (a) MSM, (b) were infected with a bacterial STD (syphilis, gonorrhea, chlamydial infection), or (c) were receiving partner notification services. Enrollment venues included an STD clinic and an HIV care clinic; those MSM offered the program through partner notification could be anywhere. DIS conducted a roughly 40-minute training session emphasizing the purpose (case-finding), how to approach people safely, and establishing a commitment to refer peers and follow up. Recruiters

were instructed not to ask other their HIV or STD status, but to refer on the basis of perceived risk. Recruiters were given cards to hand out and offered $20 per person referred, up to three peers, and were also paid $20 for the training session. Referral beyond three peers was at the discretion of the training DIS.

Of 167 recruiters (including 27 referrals who then entered the program), 43% referred at least one peer for a total of 317 referrals. Of 283 referrals not known to be HIV+ (34 had been previously diagnosed) tested, 13 (5%) tested as HIV+. Undiagnosed prevalences were: for gonorrhea, 1%; for chlamydial infection, 4%; for HBV, 4%; and for HCV, 43%. Although there were no syphilis cases uncovered, the mechanism could be applied in a high syphilis-prevalence setting.

INTERNET-BASED NOTIFICATION

The Internet has been explored as a venue that facilitates risky sexual behavior, but also may lend itself to partner notification[49,50] as it has for syphilis testing.[51] In San Francisco, two MSM with newly diagnosed syphilis were only able to provide chat-room handles as partner identifying information.[24] Using a combination of chat-room outreach (announcing the outbreak in chat rooms) and direct electronic contact with named partners (using e-mail or instant messaging to contact specific individuals), staff identified 5 related cases of syphilis. Altogether, these 7 men named a total of 97 partners. Forty-two percent of named partners were notified and tested for syphilis, and the number of gay men evaluated at the clinic rose 18% over the previous month. E-mail contacts of two syphilis in Los Angeles yielded 124 contacts, with confirmed contact and some follow up for 36 (29%) of these people.[51]

A similar effort was conducted online in the state of Minnesota, by Patricia Constant and staff. E-mail or screen names were the only information provided to DIS for the location of 50 named partners. Of those 50, 30 (60%) were contacted via e-mail, 13 (26%) did not respond to e-mail contact, and 7 (14%) were sent to other states where online partner notification did not occur.Table 8 presents a graphic description of these efforts. While online partner notification efforts have shown great potential in areas such as California, Minnesota, Chicago, and Houston, some program areas are prohibited from engaging in this type of partner notification by local policy or technology. An assessment of barriers to online partner notification is currently underway.

Cutting-edge technology for partner elicitation and notification is being implemented in the San Francisco City Clinic. For example, one new strategy for partner notification involves performing the case interview in the immediate vicinity of an Internet-linked computer. When the patient mentions a partner for whom he or she has only Internet-based contact information, the DIS immediately encourages the patient to use the nearby computer to search for partners during the course of the interview. San Francisco patients who find partners online are encouraged to use the InSpot system to notify partners of the need to seek health care for potential sexually transmitted infection. The InSpot system sends an automated, electronic postcard to the recipient. The postcard can be "signed" by the sender or can be anonymous. To date, evaluation data are not available for either strategy. For all of these electronic contact strategies, programs need to define the meaning of a contact more closely. For example, does a valid e-mail address count as a contact, or does there have to be a reply — or even some objective confirmation of identity?

4.6 Key strategies to be included in the 2006 Plan

The rationale of these strategies may be found in the preceding section on effectiveness and in comments on the nature of current syphilis epidemiology.

4.6.1 Apply optimum interviewing techniques to maximize the numbers of partners elicited and cases initiated

Apply complementary case-finding strategies, including network generation and use over time, and peer-based referrals of persons they deem "at risk." This is designed to reach members of networks linked by risk behaviors or factors and is feasible due to the geographic and sociodemographic concentration of syphilis.

4.6.2 Use the geographic and sociodemographic concentration of syphilis to inform the best locations for DIS for immediate case-interviewing and partner follow up

Plausible locations to find cases based on surveillance data by location include jails, HIV clinics, public clinics, some community health centers, and other locations. Jurisdictions should be aware of their local epidemiology to best inform precise locations.

4.6.3 Communicate and collaborate with other parties interested in partner notification for the elimination of syphilis

Potential parties include other HDs and community-based organizations seeing persons in whom syphilis is diagnosed. Examine the socio-demographic qualities of early latent (and possibly late latent) cases to be sure they do not differ substantially from P&S cases. Differences imply different groups receive different quality of partner management. Large numbers of early latent cases indicate missed P&S morbidity and overall inefficiency in case-finding.

4.7 Standards for Partner Services

The standard matches to the strategies and interventions in the preceding two sections. DIS referral remains a priority and should be always applied according to the content reflected in Table 6. The very first priority is therefore to assure that DIS are appropriately trained and that their performance reflects this training.

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4.8 Methods of evaluation

1. One guiding principle should be to collect as much data in the chain of partner management as possible. By doing so, different interventions can be tested for their effects throughout, with failure being as potentially diagnostic as success;
2. Another guiding principle should be the careful definition of which data are needed beyond local storage for state and Federal collection. Any data transmitted beyond the local level should be collated and analyzed by the responsible party and findings returned to the local level. (Two independent working groups comprising DSTDP/Division of HIV/AIDS Prevention (DHAP) staff have taken this issue under consideration.);
3. Where possible, we encourage collecting cost data in conjunction with effectiveness data. Interventions may be effective, but unaffordable, or even effective, but unaffordable if start-up costs are left to individual clinics. Ergo, cost-effectiveness analyses at clinic and higher levels of analysis are warranted. One example of the usefulness of cost-effectiveness is a 1990–1993 randomized trial of three types of referral — immediate DIS referral, contract referral (2 days), and immediate DIS referral with optional phlebotomy showed equivalent case-finding and treatment indices across the three conditions.[52] Contract referral had the lowest cost per partner tested ($232) and per partner treated ($317) against the remaining two conditions ($245 - $252 and $343 - $362), although cost-effectiveness differed by site; and
4. Evaluation in Rothenberg et al.'s study[36] required an analyst familiar with network methods and analysis. Few HDs possess such skills, so either there has to be a source for training, a third party who is willing to conduct analyses, or both. In the longer term, the broader scope of network analysis as another level of explanation incorporating economic, cultural, and political data as described by Doherty, et al.,[53] should be considered for at least broad guidance for partner notification activities. Process evaluation of DIS activities should allow for time spent collecting network-oriented data.

Table 5. Standard for improving Partner Services for SE

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B — Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• State and local HDs in HMAs should audit the outcomes of partner notification activities for P&S syphilis on an annual basis.	A

Table 6. Major partner elicitation and provider referral data

Data collected (per index case)	Terminology and statistics
Interview	
Number of sex partners claimed	Period partners / index cases = Partner index
Number of partners with identifying and locating information	Cases initiated / index patients = Contact index / period partners
Notification	
Number of partners contacted	N contacted / index patients = Notification index / cases initiated / period partners
Post-notification	
Number of partners tested	N tested / index patients / cases initiated / period partners
Number of partners treated	N treated / index patients = Treatment index (Epidemiologic index) / cases initiated / period partners
Number of partners found to be infected	N positive / index cases = Case-finding index (Brought-to-treatment index)* / period partners
Common dispositions	
Contacted, treated, tested, found to be infected = Treating infections (fundamental principle of partner notification).	
Contacted, treated, infection status negative or undetermined = Prophylaxis (fundamental principle).	
Could not be contacted.	
Contacted, refused evaluation and/or treatment.	

*The inverse of this figure gives the number of index cases needed to interview (NNTI) to find a new case of the STD in question. The NNTI is another commonly reported statistic.

Table 7. Results of partner notification in two U.S. cities, 1997–2002

	Cases interviewed	Cases found	BTI (NNTI)
Indianapolis: P&S cases	1126	282 *186*	0.25 (3.99) *0.17* *(6.05)*
Indianapolis: EL cases	433	61 *30*	0.14 (7.10) *0.07* *(14.43)*
Nashville: P&S cases	998	234 *125*	0.23 (4.26) *0.13* *(7.98)*
Nashville: EL cases	1013	192 63	0.19 (5.28) *0.06* *(16.08)*

Notes: BTI = Brought-to-treatment index (or case-finding index); NNTI = Number (of index cases) Needed To Interview (to find a new case) = 1/BTI; P&S = Primary & Secondary; EL = Early Latent. Figures in italics represent infectious cases found through partner notification.

Table 8. Management of syphilis cases in a national survey of physicians

Action (% always)	Public practice setting	Private practice setting	Total
Instruct patient to tell partners to seek care (self referral)	83	84	84
Tell patients why [self referral] is important	79	81	81
Collect partner information and contact partners**	10	5	6
Collect partner information for health department	18	13	14
Report patient name to health department	55	49	50
Tell patient to use condoms	78	78	78
Tell patient not to have sex during treatment	80	79	79

N = 3327–3361 (depending on missing data). *: $p < .05$, **: $p < .001$, based on MH□ analysis of the underlying 5-point scale: 1 = never; 2 = sometimes; 3 = about half; 4 = usually; 5 = always.

5 The role of laboratory services in Syphilis Elimination

5.1 Executive Summary

I. Serologic tests remain the most the most frequent means of establishing a diagnosis of syphilis.

II. Recent advances in the development of serologic diagnostic tests have resulted in the use of treponemal tests as screening tests. As a result, confusion regarding interpretation of results of treponemal and non-treponemal tests has arisen.

III. There is a need to review the abilities of laboratories either to perform quality serologic testing for syphilis, or to refer specimens for testing at more central laboratories. As part of this exercise, communications between clinics and laboratories should be reviewed in order to ensure the timely reporting of results and appropriate treatment of infected individuals.

IV. There is a need for the development of rapid (point-of-care) tests that can be used as screening tests, particularly in resource-poor settings.

V. The direct identification of *Treponema pallidum* is rarely performed owing to the need for a dark-field or fluorescence microscope and skilled microscopists.

VI. The advent of amplified molecular techniques for the detection of specific DNA sequences of *T. pallidum* has resulted in the development of more sensitive "direct" tests for P&S syphilis. These tests should be made available on a regional basis using existing instrumentation.

VII. A molecular typing system for *T. pallidum* has been devised which could prove to be a valuable tool in the investigation of disease outbreaks.

5.2 Key Questions for the SEE Consultation Meeting

1. Is the quality of laboratory testing for syphilis in the United States adequate to support the objectives of the SEE strategy?
2. What changes to laboratory services are required in order to support the objectives of the SEE strategy?
3. Can the use of rapid (point-of-care) tests make a major effect on SE activities? If so, what are the desirable characteristics of these tests?
4. Should exemptions to CLIA regulations be made for RPR or rapid (point-of-care) testing to be performed in STD clinics, particularly in resource-poor settings?

5.3 Definition and rationale for inclusion in the 2006 Plan

The ongoing failure to cultivate *Treponema pallidum* on artificial media, problems related to the microscopic diagnosis of the disease, and long periods of unapparent infection, have resulted in serologic tests remaining the most frequent means of establishing a diagnosis of syphilis.[54] In addition, these tests are the only means whereby responses to therapy can be monitored.

Serologic tests for syphilis have conveniently been divided into two groups, namely: nontreponemal or reagin-based tests (eg. the RPR and VDRL tests) and the treponemal tests (eg. the FTA-ABS, TPHA, TPPA and ELISA tests).

Traditionally, the relatively inexpensive nontreponemal tests have been used as initial screening tests. Quantitatively, these tests are also used to assess the efficacy of therapy. Thus, after successful treatment of early syphilis, the titer of nontreponemal tests should fall and eventually become negative.

However, successful treatment of later stages of the disease may result in persistence of positive antibody titers. Unfortunately, these nontreponemal tests lack specificity, and therefore traditionally, sera that have proved reactive by these screening tests have been confirmed to be truly positive by re-testing with a more specific, but relatively expensive treponemal test.

In low prevalence settings, such as in the United States, an alternative testing strategy has been proposed whereby a treponemal test is used for initial screening and the nontreponemal test is used as the "confirmatory" test which also provides a better indicator of activity of disease. This approach is particularly attractive in two situations. Firstly, in laboratories with a very high throughput of specimens and where automation would favor an ELISA-based screening platform and secondly, in resource-poor settings where a point-of-care (rapid) test would facilitate provision of treatment at the initial clinic visit.[55]

It should be noted that, for surveillance purposes, the use of treponemal antibody tests alone should be discouraged since changes in prevalence of treponemal antibodies in a population will inevitably persist for several decades, even following successful disease interventions.

5.4 Summary of intervention as outlined in the 1999 Plan

High quality clinical and laboratory services were considered the cornerstones of syphilis prevention and control in the 1999 Plan. Screening and timely treatment of high-risk and marginalized persons were considered priority activities and the need to expand these activities to non-traditional settings was emphasized — in consultation with affected communities. Both public and private-sector providers were urged to address gaps in services and access to care for vulnerable persons. The plan also recognized the need for utilization of rapid, non-invasive testing methods and other diagnostic advances as they are identified through research. It was indicated that periodic training and quality assurance of both providers and laboratories was essential to maintain high quality prevention and care services.

5.5 Assessment of progress to date and key issues facing this intervention today

Unfortunately, gaps in services and obstacles to care identified prior to the publication of the 1999 Plan remain. It would appear that the quality of laboratory services remains inconsistent, particularly in resource-poor areas and that timely reporting of test results does not occur, particularly in settings where laboratories are not integrated into the information systems of local and state HDs.

Rapid diagnostic tests for syphilis have been developed by a number of commercial diagnostic companies but none of them has been cleared by the FDA. In general, these tests are lateral flow chromatographic strip tests that are able to detect antibody to specific treponemal antigens in either serum or whole blood specimens. The most frequently used antigens in these tests are the 47kD, 17kD, and 15kD treponemal antigens. These tests have been shown to be equivalent to TPHA/TPPA tests in terms of both sensitivity and specificity but, as with other treponemal tests, are of no value in monitoring responses to therapy since they usually remain positive for life.

The syphilis serology reference laboratory at the CDC has played a major role in the evaluation of these rapid tests by acting as the reference laboratory for the World Health Organization's STD Diagnostics Initiative which has a comprehensive program for the evaluation of rapid syphilis tests.[55] In addition the laboratory has acted as a reference laboratory for a domestic evaluation of two such rapid tests, the Abbott Determine test and the Lee Laboratories Treponemal strip test. However, concerns about batch to batch variation in the performance of these tests have been raised, and any future evaluations should take this problem into account.

The STD laboratory at the CDC is currently partnered with four commercial diagnostic companies to develop at least one rapid serologic test for syphilis based on the detection of antibodies to treponemal and nontreponemal antigens. Prototypes of a through-flow test have been produced and it is anticipated that clinical trials will commence early next year.

The use of tests to detect *T. pallidum* directly in specimens taken from P&S syphilitic lesions has decreased owing to the need for a dark-field or fluorescence microscope, and a skilled microscopist.

There are also concerns regarding transport of specimens, since darkfield microscopy should, ideally, be performed immediately after taking the specimen at the clinic.

These problems have largely been overcome as a result of the development of amplified molecular techniques for the detection of specific DNA sequences of *T. pallidum*[56]. The molecular diagnostics group within the STD laboratory at CDC has developed both a single PCR test for syphilis and a multiplex PCR test that detects all the most common causes of genital ulcer disease.[57,58] This latter test has subsequently been adapted to a real-time platform that enables results to be available within 90 minutes. Future versions of the test should result in a decrease in detection time to approximately 30 minutes.

5.6 Key strategies for inclusion in 2006 Plan

5.6.1 Update guidance on diagnostic methods for syphilis detection

In order to improve the quality of laboratory testing for syphilis and improve interpretation of both treponemal and nontreponemal tests, it is proposed that the CDC and its partners update the Manual of Tests for Syphilis, currently in its 9th Edition, to include rapid tests and molecular detection of *T. pallidum*. In addition, either a "dear colleague" letter or a publication on the use and interpretation of results of treponemal tests when used as screening tests is urgently required. If necessary, regional workshops on serologic testing may need to be organized. An audit of methods used for serologic testing and the time taken to inform providers of results should indicate where improvement in both service provision and communications are lacking.

The SEE should recommend that the CDC and its partners update the Manual of Tests for Syphilis. In addition, policy guidance on the use and interpretation of results of treponemal tests when used as screening tests is urgently required.

5.6.2 Fund research and evaluation on point-of-care tests

Studies on the utility of both rapid treponemal and nontreponemal (point-of-care) tests should be encouraged and consultations with FDA held in order to determine the most appropriate course of action required to facilitate licensing of such tests in the United States.

The SEE should recommend urgent research and evaluation on point of care tests for implementation in the Unites States within the next 5 years.

5.6.3 Increase the availability of PCR testing for syphilis

PCR tests for *T. pallidum* should be made available to regional laboratories in order to transfer the technology to the field. Many of these laboratories already have suitable facilities and equipment as a result of bioterrorism response activities. Validation of these tests in the regions could be achieved by provision of specimens from the CDC as part of an external quality assurance program.

The SEE should recommend the identification equipping and establishment of a network of regional laboratories to facilitate PCR testing for syphilis by 2007.

5.6.4 Evaluate the application of *T pallidum* sub-typing methods to outbreak investigations

The advent of these molecular diagnostic tests has resulted in development of molecular typing and sub-typing methods for *T. pallidum*. These tools, developed in the CDC STD laboratory have been applied to both endemic and outbreak situations, and found to have an appropriate level of discrimination.[59,60] This technology should be made available to investigate discrete outbreaks of disease and possible differences in tissue tropism and pathogenic outcomes.

The SEE should recommend the implementation of demonstration projects to examine the utility and acceptability of typing and sub-typing methods for *T pallidum* in outbreak sites.

5.7 Standards for laboratory services

Serologic tests for syphilis are among the least complex tests conducted by clinical laboratories. Laboratories conducting serologic testing for syphilis should provide quality results to the provider within a week of collection of the initial serum specimen. All laboratories should conduct internal quality controls and participate in an external quality assessment program initiated by a regional reference laboratory. Each regional reference laboratory should participate

in an external quality assurance program coordinated by CDC and partners, and regional capacity should be enhanced by transfer of new technologies from the CDC.

5.8 Methods of evaluating laboratory services

All laboratories should participate in both internal and external quality assurance programs that include proficiency testing (e.g., CAPS, AAB) and should abide by CLIA regulations for clinical laboratories. CDC and its partners in the regions should initiate a program to monitor turnaround times and the proportion of seropositive cases treated.

Table 9. Standards for improving laboratory services for syphilis control

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B — Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• Manual of tests update to be completed by end 2006. • CDC to produce policy guidance on use of treponemal tests as screening tests to be produced by end-2006.	A
• Strategic plan for evaluation and licensing of syphilis point-of-care tests to be produced by CDC by end 2006.	A
• CDC to establish regional laboratory network by end 2007.	B
• CDC to work with program consultants to identify suitable areas with syphilis outbreaks to participate in this program by end 2007.	B

6 Outbreak and incident response for Syphilis Elimination

6.1 Executive Summary

I. Outbreak response is an intervention that includes a network to gather key institutional and human resources so that outbreaks are detected, verified, and responded to efficiently and effectively by local communities, and the level of preparedness of states is increased. The networks that are developed locally should focus on three areas: outbreak alert, coordination of outbreak response, and outbreak preparedness.

II. The National Plan to Eliminate Syphilis from the United States suggested that HMAs determine priorities and intervention activities that are supported by epidemiologic, social, and behavioral surveillance.[1]

III. Project areas have attempted to design and develop plans that best meet the needs of their respective areas. However, project areas' outbreak response plans set thresholds that may not be appropriate to their needs (e.g., too high, too low, or not specific enough).

IV. An analysis of the 36 program assessments identified that project areas need to have quality surveillance to monitor disease and behavioral trends in order to detect outbreaks, have the plan designed to address and evaluate local conditions, and maintain partnerships with community-based organizations and other organizational partners to assist with planning, implementing, and reviewing outbreak response.[13]

6.2 Key questions for the SEE Consultation Meeting

1. Are there elements of outbreak response or development and implementation of an outbreak response plan that are not being currently addressed?
2. How can project areas periodically "test" and evaluate the outbreak response plan?
3. What criteria should be used to determine when an outbreak has ended?

6.3 Definitions and rationale for inclusion in the 2006 Plan

Outbreak response is an intervention that includes a network to gather key institutional and human resources so that outbreaks are detected, verified, and responded to efficiently and effectively by local communities, and the level of preparedness of states is increased. The networks that are developed locally should focus on three areas: outbreak alert, coordination of outbreak response, and outbreak preparedness.[61]

Inclusion of outbreak response as a strategy continues to be critical due to the need for having a tailored strategic plan to address increases in syphilis morbidity. According to the Division of Sexually Transmitted Disease and Prevention Syphilis Surveillance Report there were 7,177 P&S cases reported in 2003. This represented a 4% increase over 2002. In the year 2003, there was a decline among women and among African Americans.[3] Although recent increases in syphilis morbidity are directly related to increases in MSM, and men who are co-infected with HIV, outbreaks are now being identified in other populations. Recently, several project areas have called upon CDC to assist in providing technical assistance to address increased syphilis rates among

heterosexual populations. One project area has seen syphilis rates rise among all racial and ethnic populations, and high risk groups, including MSM.

Prior to the development of the national SE plan, project areas addressed increases in syphilis morbidity by focusing primarily on case management (e.g., interviewing and field investigation). However, this strategy was limited because there was no opportunity to formulate hypotheses about reasons for the outbreak, and thus no opportunity to develop targeted interventions to interrupt transmission. Outbreak response, as an SE strategy, would require project areas to devise hypotheses by reviewing epidemiologic, behavioral, and programmatic data. The programmatic data would be reviewed to determine if increases in disease is associated with a failure in the public health infrastructure (e.g., lack of surveillance staff, or reduction in other public health staff). It would also require project areas to better understand the complexities associated with designing targeted interventions that might include enhanced surveillance, expanded clinical and laboratory services, and enhanced health promotion.[62]

6.4 Summary of issues as contained in the 1999 Strategy

When the 1999 National Plan to Eliminate Syphilis from the United States was developed, the nation had experienced a dramatic decline in syphilis morbidity for a seven-year period. It was noted in the 1999 CSPS grant guidance that when syphilis morbidity declines, "outbreaks represent an increased proportion of the disease that does occur. At the same time, surveillance measures sometimes falter and outbreaks may go undetected." In the event that surveillance measures weaken, small increases in syphilis morbidity may develop into large ones. For that reason, state and local HDs were directed to develop outbreak response plans. The plan was to include:

1. Standards for surveillance and procedures for analysis of data;
2. A timetable and schedule for review of disease trends;
3. The threshold at which the plan is to be executed;
4. The meaningful involvement of the affected community in the effort and staffing considerations, including number, disciplinary mix, and the specific responsibilities of members of response teams;
5. The notification to CDC; and
6. The evaluation of the effectiveness of the response.[63, 64]

6.5 What are the issues for outbreak response and syphilis today?

In the CSPS grant guidance, project areas were asked to address two outbreak response objectives to realize the national goal of SE:

1. Develop an outbreak response plan; and
2. Establish area-specific criteria that determine when the outbreak response plan is to be implemented.

From 2000–2004, CDC conducted program assessments of 36 SE program throughout the United States. The assessments included a component to determine the quality of a program's syphilis outbreak response plan. Each review focused on:

1. Data collection, management, and dissemination;
2. Coordination, planning and quality assurance;
3. Internal evaluation; and
4. Staffing.

Based on the findings from the review, successes and challenges were identified are outlined in Table 10. Some of the successes were collecting social and behavioral data and analyzing those data in order to evaluate increases in syphilis morbidity. Some of the challenges were a lack of:

1. Methodology for collecting behavioral data;
2. A dissemination plan; and
3. A threshold for determining an outbreak.[13]

6.6 Key strategies for outbreak response to be included in the 2006 Plan

Outbreak response plans need to be locally adapted and incorporate the meaningful involvement of the affected community in the effort (e.g., staffing considerations, including number, disciplinary mix, and specific responsibilities of member of response

Table 10. Successes and challenges in outbreak response

Successes	Challenges
• Collection of specific social and behavioral data included in the plan. • Clearly outlined plans for dissemination of outbreak data to stakeholder groups and the general public. • Collaborations with key agencies and partners to implement plan activities are in place and clearly integrated into the plan. • Clearly defined threshold that would trigger an outbreak response. • Up to date, localized plan in place with clear goals, responsibilities and activities outlined in this plan. • Incorporation of evaluation activities in the plan and commitment to evaluation measures. • Designated outbreak coordinator in place. • Adequate staff available and designated for response activities.	• Lack of social and behavioral data collection activities in the plan. • Lack of dissemination procedures for response plan. • Lack of integrated or collaborating agencies in the plan. • Lack of a local outbreak response plan. • Lack of a clearly defined threshold that would trigger an outbreak response. • An outdated response plan. • Lack of specificity regarding components of the plan • Poor timing described in the plan. • Absence of an evaluation component in the plan and overall lack of commitment to evaluation measures. • Lack of designated outbreak coordinator to oversee response activities. • Limited staff available for outbreak response activities due to funding limitations. • Staff turnover results in incoming staff with limited knowledge base.

The Program Assessments also identified lessons learned and best practices which are outlined in Table 11.[13]

Table 11. SE program assessment lessons learned and best practices for outbreak response

Lessons learned	Best practices
• Surveillance systems must be adequate before an effective response plan can be instituted. • Outbreak response plans must be designed and evaluated based on local conditions. • Partnerships with Community-based organizations (CBOs) and providers may increase the staff available to implement a response plan. • Regular involvement of organizational partners in planning, implementing and reviewing rapid outbreak response activities builds trust. • Quality assurance mechanisms may remove barriers to an effective rapid outbreak response. • Incorporation of evaluation activities in the plan.	• Developing rapid outbreak response plans that have locally tailored and quantifiable thresholds for triggering a response. • Developing specific schematics detailing the order of events in case of a syphilis outbreak. • Utilizing technical assistance to develop appropriate health messages and procedures for the dissemination of information to the affected local population. • Developing rapid outbreak response teams comprised of health professionals, community members and other relevant agencies, with responsibilities assigned to specific members. • Collecting, analyzing, and utilizing surveillance data to test for plan appropriateness. • Regularly updating or revising current program plans such as reactor grids, particularly in the absence of other safeguards.

teams. All HMAs funded with SE funds should have a local outbreak response plan in place.

Project areas should describe an algorithm of events in the response plan which includes the following:

1. How outbreak thresholds are evaluated;
2. The order of activities to assess the need for responding;
3. Possible intervention in the event of a response; and
4. How outcomes will be evaluated.

6.6.1 Outbreak detection and routine review of epidemiologic and behavioral surveillance data

Project areas should know:

1. Who has disease;
2. Where disease is occurring;
3. What populations are most impacted by disease;
4. When did disease rates start to increase; and
5. Why are disease rates increasing.

6.6.2 Develop thresholds for determining an outbreak

Project areas with high disease incidence should analyze epidemiologic and behavioral surveillance data that is locally tailored and has quantifiable measures for triggering a response. They should also conduct routine analysis of syphilis data by appropriate geographic or population subgroup and compare to historical information for interpretation.

6.6.3 Develop specific schematics detailing order of events in the case of a syphilis outbreak

Project areas should have an algorithm that outlines who has input into determining a response; the activities that are done in order to assess the need for responding; the direct services provided in the event of a response; and the outcomes that are expected by responding.

6.6.4 Have an outbreak response plan that is tailored to locality

Outbreak response plans need to be tailored to reflect the meaningful involvement of the affected community in the effort (e.g., staffing considerations, including number, disciplinary mix, and specific responsibilities of members of response teams.[64] All HMAs funded with SE funds should have a local outbreak response plan in place.

6.6.5 Develop hypotheses about contributors to the increase in cases

Program areas are encouraged to generate hypotheses by conducting focus groups with key health professionals (e.g., disease intervention specialists, and clinicians) to investigate the reasons for increases in syphilis morbidity and determine commonalities in the cases that are interviewed.[62] At the clinic level, there should be a medical records review of selected cases to identify demographic data and risk factors; and comparative analyses of syphilis cases with STD clinic patients and other clinic patients who have not been diagnosed with syphilis. Review the systems (i.e., surveillance, clinical, laboratory and operational) to identify systems issues that would lead to the increase. The project area should also interview members of the affected community in order to get their perspective about why there is an increase in disease.

6.6.6 Execute control measures based on hypotheses, if appropriate

Establish that the rate of disease increase exceeds the threshold at which an outbreak is suspected and at which an enhanced control and prevention plan needs to be executed.[65]

6.6.7 Notify all partners of planned response

Identify those partners (e.g., community members, health providers, and media) about increases in syphilis morbidity.

6.6.8 Assemble interdisciplinary team that can respond rapidly and inform partners/ community

The team should be comprised of an outbreak response coordinator, health professional with expertise in surveillance, disease investigation, and community mobilization.

6.6.9 Outbreak Closure and Evaluation

Complete a written summary of response activities with specific recommendations to sustain interruption of disease. Complete an evaluation that determines effectiveness and cost of response.

6.7 Standards for outbreak response intervention

The following table summarizes key elements of the outbreak response intervention and the required standards for each element. These represent the minimum standard for implementation of each intervention. Project areas will be expected to report upon the implementation progress for each strategy on a regular basis throughout the project period.

6.8 Methods of evaluation

All HMAs should submit an annual outbreak response plan that describes data collection and analyses, thresholds, schematics detailing order of events, and an outbreak response team. All activities should have clear objectives and measurable outcomes.

Program consultants should review outbreak response plans with program areas on an annual basis. A report of SEE activities (including outbreak response strategies) within funded HMAs should be submitted to program consultations for review bi-annually.

Table 12. Standards for SEE outbreak response interventions

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• All state and local HDs in HMAs should review and update their syphilis outbreak plans by end 2006.	A
• All state and local HDs in non-HMAs should review and update their syphilis outbreak plans (including area specific thresholds) by end 2006.	B

7 Mobilizing communities for Syphilis Elimination

7.1 Executive Summary

I. Community participation, although defined in a variety of ways, is well established in community and public health programs.

II. The current U.S. epidemic of infectious syphilis disproportionately affects disadvantaged ethnic minority communities and men who have sex with men; persons who may also be marginalized and less trusting of government authorities such as HDs.

III. Effective community participation can increase the accessibility and acceptability of STD prevention and control by:

1. Facilitating communication with affected communities;
2. Restoring, building, and maintaining trust;
3. Improving access to and use of STD services;
4. Improving the cultural competence of interventions; and
5. Mobilizing community-based efforts to sustain SE activities.

IV. In the 1999 National Plan to Eliminate Syphilis from the United States, community participation was a key component of one of the plan's cross-cutting strategies, Strengthened Community Involvement and Organizational Partnerships, and STD programs have entered into a variety of collaborations with community-based agencies and entities.

V. Evaluating the effect of community participation can be challenging. For SE, community participation should be organized to accomplish specific tasks that improve sexual health indicators for communities who are involved in the participation effort.

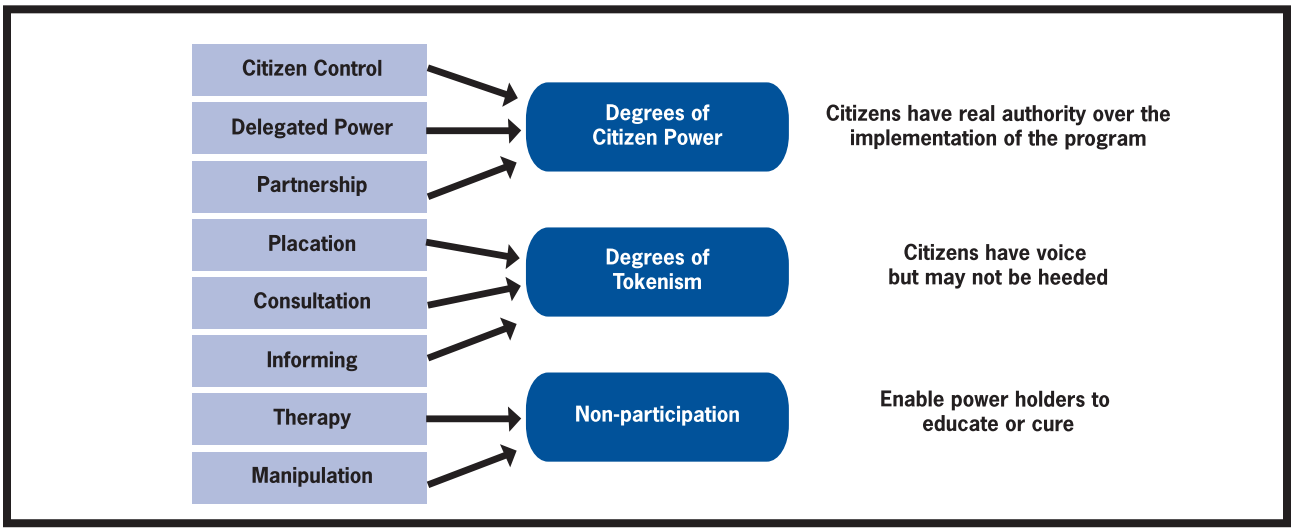
VI. Recommendations related to Community Participation inclusion in the SE 2006 plan include:

1. Establishing explicit levels of community involvement in the development, delivery, and evaluation of SE activities;
2. Maintaining current grant requirement that all HMAs award a minimum of 30% of SE funds to appropriate community organizations to conduct SE activities;
3. Supporting data collection that includes ethnicity, cultural, and socioeconomic indicators, in addition to race; and
4. Ongoing monitoring and analyses of surveillance data to identify high incidence groups and their risk factors, as well as tracking their respective epidemic phases.

7.2 Key Questions for the SEE Consultation Meeting

1. How do we maintain SE community participation in originally targeted populations while initiating new efforts in communities recently affected by syphilis?
2. How do we assist state and local programs to ensure flexibility in resource allocation to serve populations in the context of changing epidemics?
3. What are the best means of promoting meaningful and practical levels of community participation in the development, delivery, and evaluation of SE interventions?
4. How do we effectively collect surveillance data that include such indicators as: ethnicity, culture, and socioeconomic indicators to enhance knowledge of the social and individual determinants of risk for transmission and acquisition of syphilis to ensure appropriate community representation in the participatory SE efforts?

Figure 1. Arnstein's Ladder of Participation



7.3 Definition and rationale for inclusion in the 2006 Plan

Community participation, as an essential component in community and public health programs is well established,[66] although it is also a concept that has been defined in a variety of ways; reflecting varying degrees of community or client power in relationship to external institutions, as is illustrated in Arnstein's Ladder of Participation (see Figure 1).[67]

Moreover, the definition of community varies and is not always bound by geography, but often entails cultural identity and experience[68] (e.g., Gay men, Hip-Hop youth). Successful community participation in public health efforts is best achieved when affected community members collaborate in equal partnership with health professionals to determine health goals, implement interventions, and evaluate outcomes. The current U.S. epidemic of infectious syphilis disproportionately affects disadvantaged ethnic minority communities and men who have sex with men. The persons most at risk for infectious syphilis are often also socially marginalized and frequently distrusting of government authorities such as health department.69 In the 1999 National Plan to Eliminate Syphilis from the United States, effective community participation was discussed as an essential feature of the cross-cutting strategy, Community Involvement and Organizational Partnership,[1] and it was described as a means of:

1. Facilitating communication between affected communities and STD programs;
2. Restoring, building, and maintaining trust;
3. Improving access to and use of STD services;
4. Improving the cultural competence of interventions; and
5. Mobilizing community-based efforts to sustain SE activities over time.[70]

7.4 Summary of intervention as outlined in the 1999 Plan

The 1999 plan encouraged state and local STD programs to form partnerships with established community organizations and organize community member coalitions[71] to ensure community participation in SE efforts. Community participation was recommended to assist STD programs to:

1. Acknowledge and respond to the effects of racism, poverty, and other relevant social issues on the persistence of syphilis in the United States;
2. Develop and maintain partnerships to increasing the accessibility and acceptability of preventive and care services;[72] and
3. Assure that affected communities were collaborative partners in developing, delivering, and evaluating SE interventions. In the 1999 plan, community organizations were defined as:

   those [organizations] that are within reasonably circumscribed geographic areas in which there is a sense of interdependence and belonging. These organizations have access to, and history and social credibility with, persons and groups affected by syphilis. They are able to provide culturally competent and relevant interventions.[73]

7.5 Assessment of progress to date and key issues facing the intervention

Beginning in 2000, the CDC conducted 36 SE program assessments across the United States. Each of

these reviews included an assessment of the individual STD program's efforts to promote community involvement and participation in SE activities.[13] Based on findings from the reviews, to promote SE STD programs across the country initiated a broad range of collaborations with community-based agencies and entities, e.g., AIDS services organizations, faith-based institutions, social service agencies, and advocacy groups. A number of community participation successes, as well as challenges, were identified during the assessments (see Table 13).

7.6 Key strategies related to this intervention for inclusion in 2006 Plan

7.6.1 Establish meaningful community participation in local SEE efforts

Meaningful community participation can improve the efficacy of public health programs. This seems to be particularly true when programs aim to provide services to communities or groups who may have experienced or otherwise perceived discrimination (e.g., racism, homophobia) or mistreatment, such that it impedes their health care-seeking or acceptance of health promotion messages.[75-78] Simply put, some communities do not trust the motives or methods of mainstream health care institutions, and often times with justifiable reason.[79] Interventions delivered by community organizations that have established links and credibility with groups with high incidence for syphilis may be more effective at SE intervention development and delivery. A number of STD programs have established community coalitions and taskforces as a means of achieving community participation in their SE efforts. Most of the STD programs currently receiving SE funds in meeting the grant requirement of sub-contracting 30% of SE funds to community organizations, have also organized advisory groups, coalitions, or taskforces to engage affected community members in the effort.[80] Many of these bodies have been productive; however, it is important to note that it may not be always necessary to organize a new coalition specifically around SE. Syphilis affected communities or target groups may already have standing community health coalitions, taskforces, or advisory boards, and incorporating SE or STD prevention in to these established institutions or movements (e.g., Gay Men's Health Summit, Reach 2010) may be more effective and efficient in terms of community member participation and health department staff resources.

To maximize the benefits (e.g., community mobilization, cultural competence) of community participation in SE activities, the SEE should recommend explicit levels of community involvement in the development, delivery, and evaluation of SE interventions and activities; and

To facilitate and support the participation of relevant community organizations in the SE effort, the SEE should maintain the grant requirement that all HMAs award a minimum of 15% of SE funds to appropriate community organizations to conduct syphilis prevention and control activities.

7.6.2 Ensure local data are used to inform community-driven prevention efforts

Good surveillance data is essential for planning and implementing effective SE activities. Such data is not only used to target screening efforts as an example, but it is also used to inform the development of health promotion interventions and guide community participation recruitment. Commonly race is used as a proxy measure for a combination of biological, cultural, and social (socioeconomic status) characteristics of individuals,[81] characteristics that are often linked with risk for STD.[82] Communities, however they may be defined, by race or by sexual behavior, are seldom completely homogeneous, and assumptions of within-group homogeneity may impede prevention efforts.[83,84] Expanded data collection that increases the knowledge and understanding of the risk factors associated with syphilis transmission and acquisition will improve the relevance and precision of prevention and control efforts.

To enhance knowledge of the social and individual determinants of risk for transmission and acquisition of syphilis and other sexually transmitted diseases, the SEE 10 should recommend and support local data collection that includes ethnicity, cultural, and socioeconomic indicators, in addition to race.

7.6.3 Ensure ongoing monitoring of surveillance data in order to track evolution in local epidemics and inform community partnerships

Table 13. Successes and challenges in community mobilization

Successes	Challenges
• Expanded outreach health education and screening capacity. • Consumer input into the development of interventions. • Culturally competent health education messages, materials, and methods. • Increased community-level STD knowledge and risk reduction skills. • Private business support for public health events and activities. • Increased civic support for STD services.	• Establishing and maintaining collaborative planning of intervention activities. • Competing or conflicting health department and CBO agency goals. • Lack of designated health department liaison for community mobilization. • State/Local government contract letting regulations. • Lack of systems to evaluate outreach screening efforts. • Inadequate data management integration and data dissemination between HDs and CBO agencies. • Lack of resources to support expanded clinical services in CBO settings.

The Program Assessments also yielded several central lessons (Table 14 Column A). In addition to the lessons learned, findings from the assessments suggested several emerging "best practices" that are also pertinent for improving community participation (Table 14 Column B).

Table 14. SE program assessments lessons learned & emerging best practices for community mobilization

A. SE program assessment lessons learned	B. SE program assessment emerging best practices
• Clear and detailed MOAs significantly strengthen community involvement and organizational partnerships. • Involving community and political leaders in program planning and outreach activities can garner support for overall STD prevention efforts. • The development of a strategic plan for SE coalitions is a critical component of successful interventions and collaborative syphilis activities. • Effective community participation in outreach requires the active involvement of taskforces, coalitions and other stakeholder groups in health department activities.	• Identify and resolve barriers to high incidence populations through the assessment of the needs and capacities of local community-based organizations and providers to determine appropriate training opportunities. • Establish contractual arrangements with third-party agencies and providers to ensure std prevention and SE service provision. • Conduct active outreach to organizational partners including regular visits, educational seminars, and dissemination of data reports. • Develop rapid outbreak response teams comprised of health professionals, community members, and other relevant organizations with specifically assigned roles and responsibilities for team members. • Develop ethnically and culturally sensitive std prevention and SE interventions for affected communities. • Organize tailored STD prevention coalitions or taskforces based on community needs.

When the 1999 National Plan to Eliminate Syphilis from the United States was launched, the infectious syphilis epidemic was largely among African Americans and predominantly located in the southeastern United States.[85] Since the launch, significant progress has been made towards reducing infectious syphilis among women and infants, and in the reduction of the infectious syphilis health disparity between Blacks and Whites. However, beginning in 2003 U.S. P&S rates began to rise again, with the increases concentrated primarily in MSM.[3] A critical challenge for a number of STD programs is the maintenance of SE efforts in initially targeted populations of heterosexual minority communities, while targeting adequate resources to respond to newly affected groups. In short, some STD programs may need to contend with different phases of the infectious syphilis epidemic and in different groups concurrently. This multiplicity of phases and populations will likely require flexible program planning and implementation, as well as timely responses to shifts in syphilis morbidity.[86,87]

To ensure effective levels of community participation and appropriate community representation in the participatory SE efforts, the SEE should recommend ongoing monitoring and analyses of surveillance data to identify high incidence groups and their risk factors, as well as tracking their respective epidemic phases.

7.7 Standards for community mobilization activities

See Table 15 Standards for community mobilization activities.

7.8 Methods of evaluating community mobilization

Evaluating community participation can be challenging, given the multiple definitions and program implications of the concept in practice.[88] Community participation is perhaps best understood as a process, a means to an end, and not the end or outcome itself. For SE, coalitions, advisory groups, or community forums, should be organized to do something, e.g., expanding access to and utilization of syphilis testing and treatments services or provide culturally competent risk reduction education and behavioral change counseling. In turn, the immediate objective of increasing access to care (i.e., testing and treatment) or health information (i.e., risk reduction counseling) should result in the impact goal of interrupting disease transmission. In other words, when community participation means more persons are being treated or practicing safer sex ultimately community participation should serve to reduce syphilis cases. While it is important to apply process measures to organizing and coordinating community participation, the most valuable outcome measure for this program component is best demonstrated by the sexual health indicators (i.e., syphilis morbidity) of the communities who are involved in the participation effort.

Process measures for the community participation should reflect objectives that are:

1. Specific;
2. Measurable;
3. Achievable and ambitious;
4. Relevant; and
5. Time bound (SMART).

All HMAs will be asked to submit an annual action plan report describing their activities to promote and support community participation as noted above in Table 15. Items described in the community participation report should include:

- The respective population(s) targeted.
- Description of community partners.
- Types of community organizations and institutions participating (e.g., faith-based, non-profits, AIDS Service Organizations) and types of activities or services provided.
- Structure of the participation (e.g., coalitions, advisory groups, key informants).
- Level of community participation (e.g., design, delivery, evaluation, and dissemination of data).
- Barriers or challenges to community participation.
- Records of interaction (e.g., reports, meeting minutes).

STD program support provided to the community organizational partners (e.g., training, screening supplies, staff).

The report should discuss the status of community participation for each of the syphilis-affected target populations in the respective high morbidity area.

Table 15. Standards for community mobilization activities

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• All project areas should implement the new syphilis surveillance data collection instrument by end of 2007. • HMAs should produce an annual report containing an analysis of syphilis surveillance data and summarizing local SE interventions for stakeholders.	A
In the annual (project period) grant progress report: • All HMAs describe community participation activities that include members of the affected communities to determine the non-governmental, community-based, health and non-health agencies, and institutions involved in the development of the SE plan. • Describe how community coalitions, advisory groups, or taskforces and other partners are involved in: reviewing the epidemiology of syphilis and the social and institutional context of its persistence and designing and implementing locally relevant, syphilis prevention interventions and control services.	B
• |Locally appropriate mechanisms for ensuring community participation (e.g., working groups, community forums etc.) should be identified by each HMA. This should be documented and reviewed annually.	A
As required by the CSPS grant award: • All HMAs must award 15-30% of SE funds to community organizations that serve affected populations. • All HMAs must report on activities of these funded organizations in future project period (annual) progress reports.	A
• All HMAs should maintain sentinel surveillance and analysis of behaviorally high incidence persons to ensure appropriate community representation in the participatory SE efforts.	B

8 Mobilizing health care providers for Syphilis Elimination

8.1 Executive Summary

I. Both public and private health care providers (HCPs) play a pivotal role in the provision of health care and dependable health information for the public. Therefore, it is imperative for the success of SEE that they a) be aware of the importance of syphilis screening; b) know signs and symptoms of syphilis; c) be familiar with testing and treatment of syphilis; d) understand the importance of reporting the syphilis cases found; and e) know reporting procedures.

II. The National Plan to Eliminate Syphilis from the United States[1] provides a blueprint for strategies to mobilize HCPs. Although progress has been made since 1999, gaps exist between clinical practice and public health efforts to eliminate syphilis.

III. Key strategies to facilitate HCP mobilization for syphilis include:

1. A well-targeted and extensive outreach to HCPs with the purpose of raising awareness, providing relevant training and information, getting buy-in and active involvement; and
2. System-level interventions to ensure effectiveness and efficiency in reaching affected and at-risk populations.

IV. Key interventions to be included in the SE 2006 plan are as follows:

1. Development of Memorandum of Agreements (MOAs) that clearly define roles and responsibilities of each party with HCPs and relevant institutions;
2. Dissemination of HCP materials, syphilis-related local information and data in a timely and effective fashion;
3. Development and dissemination of written policies and clinical protocols for syphilis testing, treatment and reporting for various settings (e.g., ER, corrections facilities and other settings);
4. Provision of in-service training and technical assistance to HCPs; and
5. Facilitation of ongoing communication between the local HCPs and the HDs.

V. Due to the fact that each health department (HD) is at a different stage in mobilizing local HCPs, it is recommended to take a staged approach to evaluation as described further in this paper.

8.2 Key questions for the SEE Consultation Meeting

1. What were the successful strategies, challenges, and relevant barriers to mobilizing HCPs between 1999 and 2006? How can these inform future efforts?
2. What are the local issues around mobilizing HCPs? Which ones are generalizable issues that transcend local issues? What are possible strategies that would help tackle these issues?
3. What kind of support do HDs need to mobilize HCPs?
4. Which organizations can help? How?

8.3 Definition and rationale for inclusion in the 2006 Plan

For the purpose of this paper, health care provider audience segments include Physicians (MD, DO) and Mid-level clinicians (Nurses, Nurse-midwives, Nurse practitioners, and Physician's assistants).

Historically and in The National Plan to Eliminate Syphilis from the United States, health care provider has referred exclusively to the physician as provider.

However, the number of mid-level clinicians who provide health care in various health care settings has been rising steadily. Their growing role in the management of patients has been shown to be cost-effective, providing greater efficiency in the delivery of care. This will likely yield benefits in terms of patient education and support, as well as greater patient adherence to treatment regimens.[89]

The provision of STD care and prevention services, has historically, for more than 50 years, resided at federally funded STD clinics. It should be noted, however, a significant shift towards private practice took place in the 1990s, necessitating links between public health clinics and the physicians in community-based practices. According to the 1992 National Health and Social Life Survey, almost half of the respondents who had ever had an STD sought care in private practice setting.[90] About 24% received STD care in a community health center clinic, emergency room, family planning clinic or other health care facility. However, many people with STD symptoms still use the STD clinics for STD diagnosis and care. In fact, another study found that 40% of the sample who reported STD diagnosis and care in the past five years reported receiving these services at a health department STD clinic.[91] Therefore, involvement of all of the HCPs as specified above, practicing in public and private settings is critical for the success of the SEE.

8.4 Summary of intervention as outlined in the 1999 Plan

The National Plan to Eliminate Syphilis from the United States clearly specifies that "Public and private providers should work together to address at the local level, gaps in services, including quality and utilization of services and access to care issues." Recognition of syphilis signs and symptoms and accurate diagnosis and treatment are necessary to identify those with syphilis and provide them with the services needed to interrupt syphilis transmission." The plan also states that the HDs are to develop and maintain partnerships to increase the availability and accessibility of preventive care services. As part of that effort, the following strategies were spelled out in the 1999 plan:

1. Develop and administer an instrument to assess the delivery of STD services in public and private sectors, identifying gaps in syphilis preventive and care services;
2. Develop and promote standards of care for STDs for use in both public and private health care settings;
3. Visit providers who serve high-risk clients;
4. Assess the training needs of public and private providers annually and provide training as needed, possibly via the NNPTCs;
5. Audit medical records from public providers quarterly, ensuring appropriate diagnoses, treatment, and documentation; and
6. Develop policies and procedures to improve syphilis reporting by the HCPs within one day of diagnosis.

Furthermore, the National Plan specifically called for "a comprehensive communication plan" for SE at national and local levels. The resulting document, The SE Communications Plan[92] which supports The National Plan was published in 2000. This document clearly specifies strategies and component strategies for the mobilization of HCPs as follows:

1. Informing providers about the importance and benefits of prompt screening, treating, and reporting of syphilis cases;
2. Providing clinical and didactic syphilis training to providers in HMAs and Potential Re-emerging Areas (PRAs) via the NNPTCs , universities, etc.;
3. Increasing interaction between providers and state and local HDs;
4. Identifying community models for increasing prompt reporting of syphilis cases;
5. Utilizing "the structures and communication vehicles of "influencers" of HCPs (e.g., managed care organizations, medical and nursing societies, local chapters of professional organizations) to get the message out about syphilis testing and reporting protocols; and
6. Presenting information on syphilis screening, testing, and reporting at relevant local and national meetings.

8.5 Assessment of progress to date and key issues facing the intervention

To more effectively implement the strategies outlined above, formative research was conducted to explore providers' knowledge, attitudes, beliefs and practices

(KABPs) regarding syphilis.[93] The research indicated that, a) HCPs would welcome an opportunity to participate in the SEE; b) there needs to be a clear explanation for SE as an achievable and worthwhile goal; c) lack of knowledge and awareness about syphilis on the part of HCPs and patients were important barriers to screening; and d) HCPs need information on signs, symptoms, and consequences of syphilis, local data on syphilis rates. Additionally, they need tools such as treatment protocols, guidelines, and sexual history taking forms.

Informing providers about syphilis screening, treatment and reporting; increasing interaction between providers and the HDs

In light of the information obtained about HCPs, CDC developed specific health care provider materials, such as *Syphilis – Physician Pocket Guide, A Guide to Taking a Sexual History,* and *Sexual History Discussion Form*. These materials are included in the SEE Community Mobilization Toolkit for use by the HDs during their health care provider outreach efforts. In addition, numerous HDs initiated provider outreach programs including provider visitation programs, provider alerts in case of syphilis outbreaks, and the development of toolboxes and web sites to inform providers. It has been a relatively common practice to make available syphilis-related information to HCPs at various local and national conferences and other professional meetings.

Providing clinical and didactic training on syphilis

The NNPTCs provide clinical and laboratory training in PTCs located in Boston, New York City, Baltimore, Tampa, Dallas, St. Louis, Cincinnati, Denver, San Francisco, and Seattle. These centers serve the DHHS region in which they are located. From 2000–2005 they have enrolled 2,720 providers in 72 syphilis-specific courses. However, syphilis content is included in all 3–5 day STD Intensive courses and for the years 2000–2005, approximately 25,531 HCPs attended those courses.

Developing partnerships

Although progress has been made, gaps exist between clinical practice and public health efforts to reduce STDs and to eliminate syphilis. According to one study,[14] less than one third of physicians routinely screen their patients for STDs, including syphilis — which is well below practice guidelines. Furthermore, the same study determined the frequency of case reporting for syphilis as 53%–57% in the states that require reporting. Twenty-three percent to forty-nine percent of the providers who participated in this study were unclear about whose responsibility it was to report — the physician's office or the laboratory. The researchers found that almost 40% of the physicians treated presumptively for syphilis, which has implications for disease surveillance due to such cases not being reported.

Table 16. successes and challenges in mobilizing health care providers

Successes	Challenges
• Successful partnerships between some HDs, local HCPs, and various institutions, complete with Memoranda of Agreements (MOA). • Effective referral systems between HDs and the HCPs. • Provision of training to HCPs. • Having written protocols in place for syphilis diagnosis, treatment, and reporting. • Dissemination of syphilis data and information to the HCPs.	• Lack of MOAs with providers in different settings such as hospitals, emergency rooms, corrections settings, etc. • Deficiencies in allocating staff and resources at the health department level for HCP visitations to ensure ongoing communication and interactions. • Need for in-service and other trainings for the providers. • Absence of written policies and protocols on syphilis diagnosis, treatment and on reporting requirements. • Deficiencies in information dissemination to the providers. • Periodic evaluation of efforts to make adjustments accordingly.

A study with a nationally representative sample of obstetricians and gynecologists (OB/GYNs) indicated that they are more likely to screen pregnant women than nonpregnant women for STDs. However, only 85% of the OB/GYNs participated in this study reported that they screen pregnant women for syphilis during prenatal care, which is still well-below the universal screening recommendations.[94] Recent reports of congenital syphilis cases validate this finding.

Data from a nationally representative survey revealed that there are many missed opportunities for the assessment and screening of STDs, including syphilis, during routine medical encounters.[95] In this study only 28% of the 3390 adults aged 18–64 reported being asked about STDs during their last routine checkup. Furthermore, the same study found that providers associated with managed care organizations (MCO) were less likely to perform STD risk assessment than providers in health department settings.

SE Program Assessments[13] were conducted to comprehensively examine local SE efforts in 36 HMAs. Important local aspects emerged from the program assessments are summarized in Table 16.

8.6 Key strategies for health care provider mobilization for inclusion in the 2006 Plan

8.6.1 A well-targeted and extensive outreach to HCPs based on their specialty

It is important to identify the physicians who are most likely to see patients with syphilis, so a more focused and targeted effort can be launched. Eighty-five percent of STDs diagnosed in the United States have been reported by five medical specialties including, obstetrics and gynecology, internal medicine, family or general practice, emergency medicine, and pediatrics. Therefore, it would be a logical strategy to target providers in these specialty areas. In light of the changing epidemic, it also makes sense to target infectious disease specialists and HCPs who serve HIV+ clientele. Keeping in mind the syphilis symptoms during the secondary stage, dermatologists may prove to be rewarding contacts for syphilis. A study indicating that dermatologists are under-utilized for STD diagnosis and treatment further strengthens this point.[96]

In addition, data have been accumulating to clearly indicate that emergency room/department and other urgent care settings represent high-yield STD screening venues, especially in urban areas with high rates of STDs.[97–99] Although emergency rooms are high-cost settings for STD diagnosis and treatment, they are frequently used for that purpose owing to the fact that they serve medically marginalized individuals who use emergency room as a source of medical care. Furthermore, deficits exist in adherence to CDC guidelines for the diagnosis and treatment of STDs in emergency room settings.[100] Another study has found less than optimal STD diagnosis and treatment practices for adolescents who present to ERs.[101] However, as was suggested in an editorial,[102] "the feasibility and sustainability of an ED screening program will hinge on commitment by both public health and ED staff to work together…"

Furthermore, the gender of HCPs may have implications for the stratification of local HCPs when carrying out the outreach. There are studies indicating that female HCPs seem to be more attuned to STDs than their male counterparts and are more likely to screen patients for STDs, elicit sexual histories, and provide patient counseling.[103-105]

8.6.2 Information-sharing and dissemination of local data

Dissemination of syphilis-related information is crucial in securing health care provider involvement. Based on findings from in-depth interviews with the HCPs (6) it was found that they need to be informed about a) syphilis rates in their practice areas; b) signs and symptoms of syphilis; c) procedures for reporting syphilis cases; and d) existence of SEE and the vital role HCPs play in SEE.

A number of providers interviewed were not aware of the SEE as a national program (6); several Rapid Ethnographic Community Assessment Process (RECAP) reports also indicate that the providers cannot have a good grasp of the effect of syphilis in their community in the absence of information about local syphilis morbidity.[106]

8.6.3 Professional training and skill-building on syphilis, other STDs, and on sexual history taking

During in depth interviews with HCPs (6), some indicated the need for a refresher on signs and symptoms of syphilis. They also brought up the fact that talking about sexual matters with their patients

is uncomfortable and that they do not feel they have the necessary tools. In addition, many studies point out that most HCPs feel they do not have the skills, comfort level, and training to obtain sexual histories. On the other hand, many patients report having sexual concerns that go unaddressed during office visits, because the subject never comes up.[9,107–110]

Of particular note, studies show that MSM are reluctant to disclose their sexual practices to their physician. This is disconcerting because findings from a national survey indicate that a typical HCP can expect more than three percent of his or her male patients to have had sex with men within the last year. This survey from 1996 to 2000 found the rate of MSM in the general population to be at least 3.1 to 3.7 percent.[111,112]

Due to the reasons specified above, it is important to communicate to the HCPs that sexual health care is integral to general health and well-being, rather than being a peripheral subject. Furthermore, the elicitation of sexual history from patients in a sensitive and non-judgmental way opens the door for patient education opportunities which has a favorable benefit-to-cost ratio and results in high level of patient satisfaction. Developing a routine format to elicit sexual health information that can be linked to patients' medical history and providing HCPs with the tools and skills necessary to obtain sexual histories have been suggested as ways to make it easier on the HCP and the patient.[113] CDC/DSTDP developed specific HCP materials, such as *Syphilis — Physician Pocket Guide, A Guide to Taking a Sexual History,* and *Sexual History Discussion Form*. These materials are included in the SEE Community Mobilization Toolkit HDs are advised to use these materials extensively during HCP outreach. SEE HCP materials are available at www.cdc.gov/std/see for printing.

8.6.4 Building formal partnerships

Development of MOAs with the HCPs who practice in a variety of settings is crucial for the success of SEE. This should not be limited to traditional medical settings; instead, the MOAs should be established with the HCPs practicing in ERs, corrections settings, student health clinics, and other relevant settings. These MOAs should clearly specify the roles, expectations, responsibilities and modes of interactions for each party involved to avoid any misunderstanding, hence operational mishaps.

8.6.5 System-level interventions

Health department staff collaborations with, a) state Medicaid programs, b) managed care organizations (MCOs), c) the HIV programs, d) administration of corrections facilities, and e) professional organizations constitute the system level interventions. Once again, developing clear-cut MOAs with these institutions is vital for the successful operation of such collaborations.

As evidenced in a recent study,[114] although varied from state to state, only 25% of the Medicaid patients diagnosed with another STD received syphilis screening. This finding indicates a need for public health officials to educate Medicaid providers about integrating syphilis screening into their practices to ensure proper screening of these populations. This is of utmost importance in an environment where up to 30% of health care costs related to STDs might be covered by public sources such as Medicaid.[115]

MCOs can play an important public health role in influencing population level prevalence of syphilis owing to the fact that they provide health care and prevention services to large numbers of individuals. Bridging communication gaps and organizational culture differences between MCOs and public HDs is extremely important for collaborative efforts. In light of the growth in Medicaid managed care programs, MCOs and HDs will need to exert leadership, coordinate efforts, overcome challenges, and assist each other in providing integrated services.[116,117] MCO's are in a position to initiate system-level interventions because of their standardized and systematic clinical management style. Furthermore, many MCOs helped develop considerable capacity for community organization and planning which will blend in nicely with the community mobilization approach in See.[118,119] MCOs can also play an important role in the implementation of clinical guidelines. One study reports that the translation of science-oriented national guidelines into a user-friendly local document by a large HMO helped enhance the acceptance of and adherence to guidelines among HCPs.[120]

Because of the changing nature of the syphilis epidemic, MSM vs. heterosexual, new emphasis needs to be directed to HIV care providers, CBOs and AIDS Service Organizations (ASOs) involved in providing services to MSM.

The Advisory Committee for HIV and STD Prevention (ACHSTP) stated "the evidence was strong

that early detection and treatment of other STDs is an effective strategy for preventing sexually transmitted HIV infection."[121] In light of this statement, involving HIV care providers in SE efforts is a sound strategy. The Health Resources and Services Administration (HRSA) funded AIDS Education Training Centers (AETCs) target HIV care providers and are involved in other collaborations with the NNPTCs such as Advancing HIV Prevention (AHP). Creative ways of introducing SE into such collaborations should be encouraged. In addition, HIV prevention programs have a solid base for community planning efforts that can be utilized as a springboard for Syphilis Elimination efforts.[122] Armed with the ACHSP statement and specific HCP materials, such as *A Guide to Taking a Sexual History, Sexual History Discussion Form* local SEE efforts may in turn have much to offer to the HIV prevention programs in an era where increases of syphilis-HIV co-infection rates in MSM is a concern.

Another possible avenue to increase syphilis screening and diagnosis appears to be the corrections setting as prisons and jails provide an opportunity to reach individuals who are at high risk for STDs. The jail population in the United States has grown at least threefold during the past two decades.[123] However, the knowledge of STD testing among HCPs practicing in corrections settings has been found to be limited.[124] This necessitates improved collaborations between these HCPs and the health department staff.

As mentioned, approaching local medical associations and publications to solicit support for local SE efforts may also prove to be a successful strategy. HDs can use the camera-ready print-ads in the SEE Toolkit for inclusion in local medical publications. These print ads come in various sizes to accommodate different publication needs.

8.7 Standards for health care provider mobilization activities

The body of evidence on HCPs' professional learning and practice behaviors may also help fine-tune and inform strategies to be considered in the 2006 plan. For example, physicians' professional practice behavior does not change significantly following lectures, conferences, and other didactic approaches although they predispose physicians toward change. Interactive educational activities, hands-on practice sessions, skill-building exercises have proven to be more effective in changing behavior and patient outcomes.[125,126] Furthermore, it has been noted that relatively strong interventions are multi-pronged/multi-media approaches that combine several interventions. These interventions include, but are not limited to a) educational materials, including clinical practice guidelines; b) outreach visits; c) reminders; and d) audit and feedback delivered by peers or opinion leaders, and patient-mediated interventions.[127–129]

Based on social influence theory, it is also essential to consider the existing patterns of social interaction and influence among HCPs. Such patterns of influence and interaction among HCPs vary based on specialties, practice settings, and other environmental factors. The use of opinion leaders and respected members of the medical societies for the implementation of guidelines and for enhancing clinical practices was shown to be a promising intervention.[130,131] In that respect, grand rounds provide an excellent opportunity for social influence. Articles in professional journals, local medical society meetings, and cable programs targeting HCPs can also serve as conduits in setting "accepted standards of care" for syphilis screening, treatment, and reporting.

8.8 Methods of evaluating health care provider mobilization

Especially during the first year, the evaluation strategies should depend on the stage of HDs in the spectrum of various strategies and activities outlined above. While there are many different ways in which to segment the HDs which will mobilize HCPs, adapting a "stages of change" approach[132] provides a practical framework in which to think about and construct the stage-matched strategies and interventions that different HDs might undertake, hence the outcomes to be evaluated.

In practice, this model has been successfully applied in organizational and clinical settings. Similar type of stage-based and systemic approach has been utilized in Community Readiness Model.[135] Therefore, we can utilize the languages of the Trans-theoretical model of behavior change and the Community Readiness Model to characterize organizations (i.e., HDs) on their "readiness" to adopt new programs or a new way of doing business. Based on these theoretical thinking, HDs can be segmented or characterized as:

Precontemplators (No awareness, denial/resistance, or vague awareness stage): HDs that have devoted

Table 17. Standards for health care provider mobilization activities

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• State and local health department should ensure that local HCPs: 1. Are aware of the local SEE, impact of syphilis, signs and symptoms, diagnosis, treatment, and reporting guidelines; 2. Take sexual history from patients; and 3. Refer patients to the HD for partner notification. • SEE Toolkit materials developed for HCPs should be disseminated by state and local HDs. • Mechanisms to facilitate good communication and collaborations between HCPs and the Health Department should be identified, implemented and reviewed annually.	B
• Utilize NNPTCs. • Explore the possibility of collaborations with local universities for grand rounds, seminars, and other training opportunities. • Work closely with local medical associations. • Familiarize relevant HD staff and HCPs with the guidelines set forth in POG.	A
• All HMAs to identify and create partnerships with health care providers reporting substantial numbers of syphilis and HIV among MSM clients. This should be reviewed on annual basis. • The MOA should clearly define roles, responsibilities and should assign clear tasks to each party involved.	B
• State and local HDs should utilize POG guidelines and CDC STD Treatment Guidelines to develop local policies and protocols.	A
• All project areas should implement the new syphilis surveillance data collection instrument by end of 2007. • HMAs should produce an annual report containing an analysis of syphilis surveillance data and summarizing local SE interventions for stakeholders.	A

relatively few resources and programmatic efforts to mobilizing HCPs in their community. As a result, HCPs in the area are not aware of syphilis as a public health problem in their community.

Contemplators (Pre-planning stage): HDs that understand the importance of involving this target audience and may be searching for various ways to address relevant issues. They might be evaluating various alternatives (Early Contemplation) and then deciding to adopt a specific course of action (Late Contemplation).

Preparers (Preparation and Initiation stages): HDs that have identified HCPs as important target audiences for SE. They actively consider a specific plan of action and a time of year to begin the project. They are in the process of developing a plan of action and acquiring resources to implement it.

Actually implementing the plan and institutionalizing the changes are characteristics of HDs in the **Action** and **Maintenance** stages of change which correspond to Stabilization and Confirmation/ expansion stages in the Community Readiness Model.

Obviously, HDs in the "precontemplation" stage cannot be expected to undertake the same activities that HDs in "preparation" or "action" stages, hence having different outcomes, process and outcome measures. The movement of Precontemplating HDs to the "contemplation" phase by outreach to HCPs and looking into various options for doing so should be considered as a success, whereas HDs

that are already at the "preparation stage" might have a different criteria for success. These criteria might include, undertaking more of the strategies and the interventions outlined in Sections III, V, and VI of this paper, hence moving into the action stage.

Recommendations for evaluation

1. HDs should first assess the stage they are in, then select appropriate strategies and interventions to move themselves to the next stage, rather than trying to undertake all of the strategies described all at once.
2. It is important to build evaluation into HCP mobilization program planning, so it will not be an afterthought. While planning for evaluation:
   a) Determine SMART objectives (**S**pecific, **M**easurable, **A**ttainable, **R**esults-oriented, Time-bound);
   b) Define standards and indicators for interventions;
   c) Select an appropriate evaluation design; and
   d) Determine the data collection and analysis methods, and costs.
3. Outcome measures should be intermingled with the process measures as much as possible. Suggested process measures include, but are not limited to:
   a) Number of HCP visits (including, corrections settings);
   b) Number of materials distributed to the HCPs;
   c) Number of HCPs in the community coalition;
   d) Number of grand rounds provided for the area HCPs; and
   e) Number of local HCPs who received training from NNPTCs.

   Suggested outcome measures include, but are not limited to:
   a) Number of HCPs inquiring about syphilis as a result of a HD outreach; and
   b) Changes in KABPs (**K**nowledge, **A**ttitude, **B**elief, and **P**ractices) of local HCPs regarding syphilis as measured by increases in:
      - The number of RPRs ordered.
      - Bicillin use.
      - Referrals to the HD for partner notification.
      - Syphilis case reporting.
4. Technical assistance from the CDC for evaluation methods is available and advised.
5. The use of numerous other evaluation-related resources is also recommended.[136,137]

9 Tailored Syphilis Elimination interventions for ethnic minorities

9.1 Executive Summary

I. Ethnic minorities, specifically African-American and Latinos, continue to be disproportionately affected by syphilis and enhanced prevention efforts are needed.

II. Syphilis morbidity is low among Native Americans and Asian-Pacific Islanders, but efforts to prevent emergence should be considered.

III. There is diversity within ethnic minority groups that is under-acknowledged.

IV. Tailoring for ethnic minorities and targeting ethnic minorities are not synonymous. To tailor is also to target, but to target is only to target.

V. Cultural sensitivity and competency is needed to appropriately tailor interventions and prevention efforts.

VI. Assessments of affected populations and communities prior to intervention tailoring is needed and can assist in targeting efforts and tailoring interventions for ethnic minorities.

VII. Re-thinking the model of partnering can facilitate programmatic success.

VIII. Collaborations and partnering can facilitate intervention tailoring, delivery and utilization.

9.2 Key questions for the SEE Consultation Meeting

1. What ethnic minority populations do we currently focus syphilis prevention efforts, but still contend with syphilis morbidity? What ethnic minority populations don't we focus syphilis prevention activities, but may be at-risk for syphilis emergence.
2. What contributes to continued morbidity and what strategies can be implemented to enhance current SE efforts?
3. What first steps can be taken to prevent syphilis emergence in populations who are at-risk for syphilis emergence?
4. How can behavioral and health scientists better contribute to the SE effort?

9.3 Definition and rational for inclusion in the 2006 Plan

The implementation of the 1999 National SE Plan primarily focused on African Americans; although efforts were also focused on Latinos in areas where morbidity was significant. Data suggest that SE efforts should continue to focus on both African Americans (to continue the decline of P&S rates) and Latinos (to prevent further P&S rate increase) living in areas most affected by syphilis.[138] However, data also indicates that although number of cases among ethnic minorities, such as Native Americans and Asian-Pacific Islanders are small compared to that of other ethnic minority groups,[139] efforts to prevent the emergence or significant morbidity of syphilis should be considered. For this reason, in this position paper, the term ethnic minorities will refer to African Americans, Latinos, Native Americans and Asian-Pacific Islanders.

Tailored interventions for ethnic minorities are needed in the 2006 National Plan to address the needs of specific ethnic minorities who are currently disproportionately affected by syphilis (i.e., African-American and Latinos), as well as to address possible morbidity of ethnic minorities that have low or potentially under-documented or misclassified syphilis morbidity (e.g., Asian-Pacific Islander and Native American).[3,140]

Tailored interventions attempt to facilitate risk-reductive change by identifying and utilizing the characteristics that are distinct to the targeted topic, context or population as part of the intervention strategies. Interventions can be tailored to address a specific issue, such as tailoring the Popular Opinion Leader (POL) model for HIV prevention to address syphilis prevention by creating syphilis prevention messages. Interventions can also be tailored to address a specific population. Using the POL example again, the model was originally tested with gay men, but it can be and has been tailored for women.

The term "intervention" is diversely used, in general. In this document, the term "intervention" will be used to inclusively refer to behavioral interventions that are empirically determined to influence risky behavior (e.g., Project Respect, social marketing, etc.) as well as intervention activities that facilitate the prevention of syphilis (e.g., outreach, screening, health communications). The Community and Individual Change Interventions section of the POG for STD Prevention provides more information regarding the various types of interventions and prevention interventions planning activities.[141]

9.4 Summary of intervention as outlined in the 1999 Plan

In the 1999 national plan, activities related to interventions tailored for ethnic minorities were mostly responsive to the cross-cutting strategy of Community Involvement and Organizational Partnerships, and the intervention strategy of Enhanced Health Promotion.

Community Involvement and Organizational Partnerships between STD programs and community-based and service organizations, sought to facilitate and target intervention efforts that promoted syphilis prevention in ethnic minorities, primarily African Americans. The engagement of community and the organizational partnerships contributed to syphilis prevention among affected ethnic minorities by facilitating communication, building trust with affected communities and between agencies, as well as enhancing client access to information and services.

Enhanced Health Promotion efforts sought to improve educational and environmental supports for protective and sexual risk reducing behaviors for those most often affected by syphilis. Efforts primarily targeted African-Americans, but some also focused on Latinos. Such intervention strategies included conducting behavioral assessments, primary prevention efforts such as abstinence and condom use, social marketing, health education, and enhanced partner services. Collaborations and coalitions were also formed between the STD programs and community-based organizations that targeted diverse ethnic minority populations. Theses collaborations led to coordinated efforts such as mobile unit screenings and social marketing campaigns.

9.5 Progress to date

With regard to interventions tailored for ethnic minorities, progress has been promising, but more can be accomplished. The SE Program Assessment Findings Monograph: "Lessons Learned" provides an overview of the activities responsive to the National Plan as well as an aggregation of the program successes and challenges.[142] The success and challenges of community engagement and partnerships is described in Position Paper #6, *Mobilizing Communities for SE*. Health promotion has been enhanced by such activities as the collection of social and risk behavioral, the incorporation of data in intervention planning, improved coordination of intervention efforts between HDs and community-based organizations, targeted outreach and detached work, and health promotion campaigns.

A behavioral intervention is currently being tested for SE using the Popular Opinion Leader model. The Community Popular Opinion Leader (C-POL) Projects to Eliminate Syphilis in Texas and Alabama are community-level intervention projects that utilize a diffusion model to facilitate syphilis risk reduction among for their respective target populations (in Texas — residents in a housing project; in Alabama — homeless men and women). Although both study populations are primarily African-American, neither project was "tailored" to African Americans. The projects "targeted" two distinct groups of people who happen to be ethnic minorities (predominately African-American). The messages disseminated within the populations, however, were tailored to syphilis prevention.

9.6 Key strategies for consideration in the SEE 2006 Plan

9.6.1 Extend syphilis prevention effort to include more "Ethnic Minorities"

The term ethnic minority is inclusive of all persons who are not part of the ethnic/racial majority in the United States. However in STD practice, the term has become almost synonymous with African-American and Latino. Intervention research, strategies and programs, in general, need to address the diversity within our diversity terminology. As mentioned earlier, SE efforts should continue to focus on both African Americans (to continue the decline of P&S rates) and Latinos (to prevent further P&S rate increase) living in areas most affected by syphilis. However, "first steps" efforts to prevent the emergence of significant syphilis morbidity (e.g., raising syphilis awareness), should be considered for other ethnic minorities that have low or potentially under-documented syphilis morbidity, such as Native Americans and Asian-Pacific Islanders.

The SEE should recommend enhancing syphilis prevention effort for ethnic minorities, specifically African-American and Latinos that continue to be disproportionately affected by syphilis, as well as initiating "first steps" prevention efforts for ethnic minorities with low syphilis morbidity (e.g., Native Americans and Asian-Pacific Islanders) to prevent emergence.

9.6.2 Enhance tailored interventions with cultural sensitivity and competency

Tailored (and targeted) interventions should acknowledge and attempt to address the differences within ethnic groups. For example, the intersection between race, gender, and social class on their possible effect on disease risk across African-Americans,[143,144] is under-acknowledged. Differences among other ethnic groups such as Asian Pacific Islander (i.e., 40 different nationalities),[145,146] Native Americans (i.e., over 500 U.S. recognized tribes),[147] and Latinos[148,149] are more often cited and acknowledged, but those differences may not be highlighted in interventions tailored for those populations.

With the above in mind, developing tailored interventions for ethnic minorities should involve listening to, learning from, and working with community members and stakeholders. Tailored interventions should also reflect some level of cultural sensitivity by acknowledging an understanding and appreciation of cultural differences and/or by identifying and drawing on community-based values, cultural traditions and customs.[150,151] Cultural competency training should be made available for SEE partners, particularly those who work directly with persons and communities most affected by high syphilis morbidity. Various cultural competency options are available. The curriculum(s) or trainings that are most appropriate for the SEE partner, activity and community should be identified and shared with SE coordinators.

The SEE should recommend and support ongoing cultural sensitivity and competency training for SE members who have contact with clients affected by syphilis by way of patience care and services, or program and intervention development and/or implementation, or both.

9.6.3 Intervention "Tailoring" in addition to population "Targeting" is the goal

Identifying the target population is essential to intervention implementation. However targeting is not the same as tailoring, and the concept of appropriate tailoring is needed in the visioning of the 2006 National Plan. There is a plethora of behavioral interventions that either target ethnic minorities or simply include ethnic minorities[152–155]. The process of intervention tailoring does include population targeting. Specifically, population targeting is a step toward the tailoring of an intervention, and appropriate tailoring cannot occur without identifying and focusing on a specific population.

Progress toward appropriate tailoring of interventions for ethnic minorities would involve the initiation of assessment activities that attempt to identify the cognitive, behavioral, and socio-cultural (ideally the psychological as well) factors that are distinct to or have a disproportionate impact on the target population. Social issues such as poverty and discrimination, for example, are experienced by many ethnic minorities, but their present impact and historical origins are as diverse as the groups. As Lillie-Blanton and Laveist[156] wrote in their article on the intersection of race/ethnicity, environment and health:

If further gains in the health of racial/ethnic minority groups are to be made, there is a need to make a qualitative leap in our understanding of the range of factors affecting the life of minority populations. Improved understanding of the

social dimensions of life will provide direction for developing public policies that better protect the public's health and reduce the risk of injury and illness.

Conducting assessments of the target population as a first step to the development of a tailored intervention facilitates a better understanding of the community or population, the specific issues, strengths, and challenges as well as the socio-cultural context. The assessment should be in service of identifying and understanding the phenomenon (i.e., syphilis morbidity) that is occurring and the people who are affected, and the appropriate use of such data should lead to programmatic success. Outcomes of assessments, such as the identification of gatekeepers, opinion or community leaders, social networks, and high-risk groups, should facilitate acceptability of an intervention, and will improve intervention applicability and utilization.

The SEE should recommend the initiation of assessment efforts to identify at least the cognitive, behavioral, and socio-cultural factors that are distinct to or have a disproportionate effect on the population of focus.

The SEE should recommend that cognitive, behavioral and socio-cultural assessment data of the affected ethnic minority populations be used to select and develop appropriately tailored interventions as well as guide prevention intervention planning.

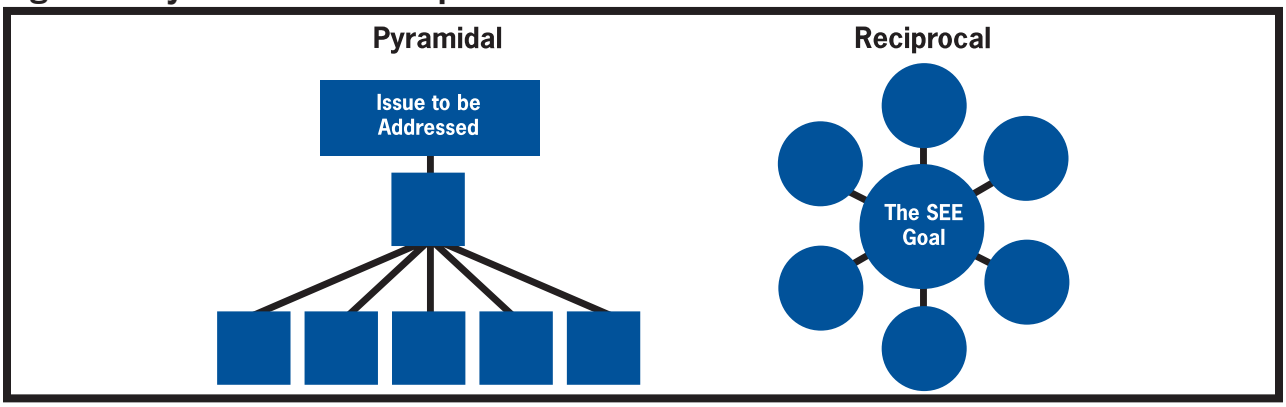
9.6.4 Collaborative partnering between communities and agencies

Community partnering was a significant component in the 1999 National Plan and it should continue to be of high priority in the 2006 National Plan. The synergy needed to reduce the affects of syphilis on ethnic minority populations is accomplished through the partnerships between the agencies and organizations that service diverse populations. However, the way partnering has been conceptualized and implemented should be re-examined. For facilities (e.g., HDs) in the field that have the desire to implement an intervention, but lack the training, funding, space, person-power or time, partnerships with other agencies can alleviate some of the burden and potentially broaden the effect. However, partnering can often mean subcontracting where one agency has the money and the control, while others do the work as agreed upon. This organizational model, though presumably efficient, is pyramidal (Figure 2 — Pyramidal), can become hierarchical, and may undermine the partnership and thus, the intervention.

The nature of a partnership with the community, community representation, or agency is shared interest and mutual investment while having equal status and some level of independence. The relationship is bidirectional and reciprocal in organizational shape and exchange, especially when there are several agencies involved in such coalitions (Figure 2 — Reciprocal). Partnerships which stem from contractual agreements may have a shared interest, but the investment mutuality, reciprocal respect and independence may not be apparent or it may not be satisfactory to the participating agencies. In the best case scenario, interests are clearly communicated, distribution of available resources are proportionate to the services provided and/or populations served, everyone's role is respected and "the way" a place works is acknowledged, if not appreciated.

The SEE should recommend continued collaborations and partnerships between communities, agencies, and organization to ensure the development and delivery of appropriately tailored interventions for ethnic minorities.

Figure 2. Pyramidal and Reciprocal models



9.7 Standards for tailored intervention activities for ethnic minorities

See Table 18 Standards for interventions for ethnic minorities.

9.8 Methods of evaluation

Project areas should submit a community and population assessment plan detailing how they will assess the ethnic minority populations they serve, and the effort of syphilis, specifically, and STDs, in general, on the identified ethnic minority populations by gender and age. The action plan should be sensitive to the diversity within the diversity and attempt to clearly identify distinctions within each broad ethnic minority group category.

Project areas should also submit an intervention action plan detailing past, current, and proposed activities involving the implementation of tailored interventions and targeted intervention efforts. The plan should include how assessment data will be integrated into future interventions and preventions efforts. The plan should also include how agencies and organizations external to the STD program will collaborate and how the affected or targeted communities will be engaged. All activities should have clear objectives, process documentation, and measurable outcomes.

Behavioral and Health Scientists and public health advisors should review the assessment and intervention action plans for scientific, evidence-based, and programmatic appropriateness and responsiveness. Scientists should also be involved in reviewing SEE activities with program areas annually, with mid-year progress check-in. An annual report of activities focused on tailored intervention and intervention efforts with multiple ethnic minorities groups should be submitted to program consultants and Behavioral and Health Scientists for review.

Participation in cultural sensitivity and competency trainings should be documented, yet evident in the tailored interventions and prevention activities.

Table 18. Standards for interventions for ethnic minorities

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• The CDC Program Assessments Monograph should be reviewed by each HMA to determine how SEE related prevention activities can be enhanced by end 2006. • Local intervention efforts, successes and challenges in SE and ethnic minorities should be reviewed and documented by HMAs annually. • Areas should review and consider for implementation one of the tailored interventions available through the Diffusion of Effective Behavioral Interventions (DEBI) www.effectiveinterventions.org • Training for DEBI can be provided by the NNPTCs http://depts.washington.edu/nnptc/regional_centers/index.html	A
• All SE coordinators should participate in cultural sensitivity training in order to serve as a resource for their project area. This should be updated at least bi-annually.	A
• Current sources of research and assessment data should be reviewed and new data collected to develop a representative perspective of the target communities. These data should be reviewed at least annually and updated as needed.	B
• Tailored local syphilis prevention interventions for ethnic minorities should be reviewed for appropriateness of the target population(s) on an annual basis.	A
• Locally appropriate mechanisms for ensuring community participation (e.g., working groups, community forums etc.) should be identified by each HMA. This should be documented and reviewed annually.	A

10 Preventing syphilis in men who have sex with men

10.1 Executive Summary

I. MSM in the United States bear a disproportionate burden of infectious syphilis and account for the majority of new reported cases today. Although changes in risky behavior explain some of this phenomenon, other factors e.g., epidemiologic synergy, sero-assortative sexual mixing, recreational drug use, and increasing homophobia and discrimination may also be contributing.

II. Preventing syphilis in MSM may be complicated by the large proportion of men who seek care in the private sector; questionable lower effectiveness of partner notification, and higher rates of partner change.

III. Strategies to raise awareness among MSM include a) health education/ social marketing campaigns on the signs symptoms and management of syphilis; b) use of culturally competent images and text recognizing diversity within MSM communities; c) working with community partners to develop, pilot, and implement social marketing and health education campaigns on syphilis; d) production of social marketing materials using a range of resources and materials; e) sustaining health promotion efforts over time; and f) working with internet providers.

IV. Strategies to increase the identification of undiagnosed prevalent infections in MSM include: a) improved and routine sexual history taking and STD screening in STD clinics; b) routine screening in HIV treatment centers; c) screening in HIV testing sites; and d) enhanced partner notification (Internet-based partner notification or client centered counseling approach). Less effective syphilis screening strategies (prevalence under 1%) include: a) outreach screening events in bars and clubs and outreach screening in saunas.

V. Key interventions which should be recommended for SE from MSM include a) collection of MSM data on STD surveillance records; b) cultural sensitivity training of STD clinic staff on MSM; c) training of DIS on interviewing and working with MSM communities (alongside a change in some DIS monitoring and evaluation criteria); d) establish partnership with CBOs working with MSM in locality; e) provider outreach, education and mobilization around syphilis in MSM; and f) partnership working with drug treatment programs for managing recreational drug use and addiction.

10.2 Key questions for the Consultation Meeting

1. What interventions should be recommended for preventing syphilis in MSM? Are there specific interventions/ recommendations for MSM of color?
2. What data are required to enhance our interventions with MSM?
3. Are there methods to monitor syphilis transmission between men who have sex with men and women who may be effective bridging populations for spread between MSM and heterosexual communities?

10.3 Definitions and rationale for inclusion in the 2006 Plan

For the purposes of this document, the term men who have sex with men includes all sexually active males who have male sexual partners **irrespective** of their sexual identify — whether gay, bisexual, or heterosexual.

MSM may have an increased risk for acquiring STDs, and may bear a disproportionate burden of

STD in the population.1[57,158] The reasons for this are multi-faceted: some MSM report higher numbers of lifetime sex partners; higher rates of partner change and partner acquisition rates than heterosexuals; STD prevalence in MSM population exceeds that of the general population.1[59,160] In addition, recent concerns have been expressed about the increases in sexual risk behaviors of MSM being driven by recreational drug use and abuse; poor mental health, homophobia, discrimination; and quantitative and qualitative changes in the sexual market place (venues facilitating sex partner acquisition, including the Internet).[159,161,162]

10.4 Summary of issues as contained in the 1999 strategy

MSM populations were not directly addressed in the 1999 SEE strategy.[1]

10.5 What are the issues for MSM and syphilis today?

MSM are at increased risk of infectious syphilis.[163] Currently over 65% of the 7000 plus cases of P&S syphilis diagnosed in 2004 were among MSM. A high proportion of MSM with syphilis are HIV positive. Although this varies by the background HIV prevalence in outbreak areas, various studies suggest that between 20%–50% of MSM with syphilis are likely to be HIV positive.[164,165] The high levels of HIV co-infection may further increase syphilis transmission and HIV incidence (epidemiologic synergy). There is some evidence that sero-sorting (assortative sexual mixing by HIV status), may limit the risk of onward transmission of HIV infection in the presence of increasing STD transmission.

Syphilis transmission in MSM may be driven by recent increases in unsafe sex among this population.[158,160] However, a substantial proportion of infections are being acquired through oral sex transmission only.[166,167] Syphilis transmission is associated with recreational drug use with crystal methamphetamine, ecstasy, alcohol independently increasing the odds of acquisition between 2–6 fold. Crystal users are 5 times as likely to have syphilis compared with non-users. Crystal users with Viagra are 6 times as likely to have syphilis.

Syphilis is not the only STD increasing among MSM. Recent reports highlight increases in gonorrhea, LGV, and chlamydia in the United States as well as Western European countries.[158,160] The evidence on increasing HIV incidence remains inconsistent across geographic settings.[168–170]

Finally, consideration should be given to the changing social and political contexts facing the acceptance of, and support for, same sex relationships in the US, and how these may affect risky behaviors. Numerous studies have examined the effect of discrimination and homophobia of risk behaviors of MSM.[171–173] Calls have therefore been made for the adoption of more holistic approaches to syphilis prevention which should include structural interventions.

10.6 Key intervention strategies related to MSM for inclusion in the 2006 Plan

10.6.1 Collection of MSM data on STD surveillance records

Good surveillance is the cornerstone of any disease elimination strategy. It provides a mechanism for monitoring progress towards elimination goals, and for evaluating the success of implemented interventions. A key intervention strategy for SE for MSM is to initiate the collection of improved data on STDs within this population subgroup. Consideration should also be given to the collection of key behavioral indicators as part of comprehensive ongoing behavioral surveillance for MSM. Behavioral and biological surveillance data should be collated locally and nationally in order to inform prevention efforts.

> **The SEE should recommend and support the active roll-out of data collection on sexual orientation/ gender of partner information on male cases with syphilis infection, recommended by the CDC in 2005.**

10.6.2 Assurance of cultural sensitivity training for STD providers

Cultural (as well as gender/sexuality) awareness is developing sensitivity and understanding of another group. This usually involves internal changes in terms of attitudes and values. Awareness and sensitivity also refer to the qualities of openness and flexibility that people develop in relation to others. **Cultural, gender and sexuality sensitivity** involves knowing that differences as well as similarities exist, without assigning values, i.e., better or worse, right or wrong,

to those cultural, gender, or sexuality differences (National Maternal and Child Health Center on Cultural Competency, 1997).

Cultural (as well as gender and sexuality) sensitivity training has been shown to be effective in achieving:

1. Improved communication with people from other cultures;
2. Improved understanding of the effect of language and culture on people;
3. Increased knowledge about the experiences of refugees and other immigrants; and
4. More effective working with persons from diverse backgrounds.

Sensitivity training may be developed and implemented to help people work with multicultural, gay, transgender and multilingual populations affected by or infected with syphilis. This training should be presented by individuals who have professional and personal experience in the subject matter. Topics which may be included in this training include Immigration Categories; Cross-Cultural Communication; How to Work with Interpreters for example.

The SEE should recommend and support ongoing cultural/ gender/ sexuality sensitivity training for all STD and front-line DIS staff to enable them to work more effectively with MSM of diverse cultural backgrounds.

10.6.3 Enhancing internet-based interventions for MSM

The internet has become an increasingly important venue for MSM social and sexual interactions. Studies indicate that between 30%–50% of MSM use the internet regularly for meeting sexual partners,[161] and 40%–70% of MSM have met a sex partner over the internet in the past year.[50,162] Internet based partner notification interventions may be used to identify at risk sex partners of syphilis infected individuals. Evidence suggests that provider referral partner notification may be less successful in MSM. Provider referral may be less effective than with heterosexual populations because MSM more likely to report anonymous sex partners. DIS may also be less experienced and confident with undertaking partner notification with MSM populations, resulting in poorer outcomes.

The internet also provides an effective tool for research, health promotion, and health educational interventions with MSM communities.[50] A number of HDs have worked in partnership with service providers to advertise health services, promote HIV testing and Hep B vaccination, and to inform local MSM about disease outbreaks. Such collaboration may form an effective partnership for raising the local profile of sexual health and the health department.

The SEE should recommend and support ongoing training in internet based partner notification for STD staff in high incidence settings. Specifically we recommend the identification of lead DIS to work with ISP and MSM internet providers to facilitate health promotion; syphilis education and internet based partner notification.

10.6.4 Increase MSM community involvement and participation in SEE activities

Participatory approaches (community involvement) in SEE activities are a key strategy to help improve social and economic conditions, to affect change, and to reduce the distrust of people being targeted in health interventions. It provides a framework to respond to health issues within a social and historical context. Collaboration, education and action are the 3 key elements of participatory approaches. These in turn stress the relationship between the health care provider and the community. A goal is that community members should own the interventions and suit them to improve their quality of life.

Participatory approaches can also be health promoting by enhancing resiliencies that exist in all communities. Especially in disadvantaged communities, participation may assist with self empowerment by removing barriers and promoting environments within which communities can increase their capacity to identify and solve their own problems.

The SEE should recommend and support community involvement by MSM communities in the development, implementation and evaluation of local SEE interventions. At minimum this should be facilitated throughout the establishment of collaborative coalitions/ task forces. More specifically a working subgroup dealing with MSM issues may be a useful adjunct to the participatory effort.

10.6.5 Provider outreach, education, and mobilization

Provider mobilization can increase physician awareness about syphilis and may help screening efforts. Many MSM seek health care within the private sector for STD services. Key interventions with private providers include physician education on syphilis; encouraging syphilis screening of MSM; DIS being partnered with specific private providers to facilitate referral and partner notification for syphilis; DIS being assigned to specific MSM clinics or private providers; encouraging syphilis testing as part of routine HIV patient management.

The SEE should recommend and support health care provider mobilization aimed at increasing awareness about syphilis in MSM; the role of the health department is syphilis prevention and control; the importance of case reporting; and management protocols for syphilis treatment. Local public HDs should be encouraged to create partnerships with providers who deal with large numbers of MSM clientele.

10.6.6 Enhance syphilis testing for sexually active HIV positive MSM attending treatment centers

The high HIV/syphilis co-infection rates may make syphilis screening of sexually active HIV-positive MSM in outbreak areas an efficient screening tool. HIV treatment centers provide a captive population of MSM who are seeking care, and having routine HIV investigations on a regular basis. Introducing syphilis testing of sexually active MSM may provide a key strategy for identifying undiagnosed prevalent infections within this population.

The SEE should recommend and support routine syphilis testing for all sexually active HIV positive MSM in outbreak areas. This is best done as part of routine testing for CD4 and viral load during scheduled clinic visits.

10.6.7 Enhance access to syphilis screening through improved access to STD treatment services

Improving access to curative services can reduce the probability of onward disease transmission within the community by reducing the duration of infectiousness. In areas experiencing outbreaks of syphilis in MSM, consideration should be given to improving access to syphilis screening for MSM who may be at increased risk. However, these may be adversely affected due to poor uptake/attendance.

Strategies for increasing access to quality STD screening and treatment services include:

1. Extending opening times for STD services;
2. Instituting non-traditional opening times for STD services (e.g., Saturdays);
3. Establishing outreach STD testing and treatment services — in community health centers, private practitioners, community events, community based organizations etc.; and
4. Using mobile vans to undertake STD screening in HMAs.

Very little cost data area available to inform which strategies are most cost-effective. However interventions which rely on minimum additional investment with high patient throughput should be preferentially instituted.

10.6.8 Enhance syphilis education and sexual health promotion with MSM

For a rare infection such as syphilis, there is a continued need to ensure that MSM be fully informed of the infection and how to reduce their risks of acquiring disease. Proactive syphilis education, risk behavior reduction, and social marketing campaigns targeted MSM should be encouraged during all epidemic phases. Evidence suggests that such advertising should be acceptable, appropriate, and culturally competent to be effective with the target population.

All areas experiencing outbreaks of syphilis in MSM should commit to at least one major social marketing/ health education campaign per annum for MSM informing them of the occurrence and risk factors for acquiring syphilis.

10.6.9 Outreach screening in bathhouses, bookstores, etc.

Outreach syphilis screening may raise awareness about syphilis and sexual health of MSM, but may yield few infectious cases. Outreach screening has been undertaken in a variety of venues where high rates of partner change or sexual activity is taking place. This may help to raise community level awareness of syphilis and may be more cost-effective if combined with testing for HIV and other STDs. Prevalence varies from between 0.1%–1.9%. Outreach screening

in social venues is therefore unlikely to yield new infectious cases, but may help with raising awareness within the target community. Screening in bars and clubs has been attempted in many cities, but these have generally met with poorer uptake and are difficult to sustain over time. These may be better combined with strategies to test for multiple conditions rather than only syphilis to be more cost effective.

The SEE does not recommend outreach screening as a primary activity to identify syphilis in high risk venues. However, the cost-effectiveness of the strategy as a whole may be improved if such events are undertaken to raise awareness and to provide a range of sexual health services (e.g., HIV testing, Hep B vaccination) especially to groups which are less likely to attend existing health care services.

10.6.10 Partnership with drug treatment centers and programs

The popularity of crystal methamphetamine among gay men is increasing, particularly young gay men. Crystal users are twice as likely to have unprotected sex;[174] five times as likely to have syphilis;[175] and crystal and Viagra users are six times as likely to have syphilis.175 CDC will continue to conduct research to further our understanding of the interplay of drug use, addiction, and sexual risk behavior of MSM and other risk populations.

In areas experiencing crystal meth driven increases in MSM syphilis, the SEE recommends partnership working between STD programs and Drug Treatment Programs, with the identification clarification of referral pathways for managing crystal meth addiction.

10.7 Standards for intervention with MSM

The following table summarizes key interventions and the required standards for each intervention. These represent the minimum standard for implementation of each intervention. Project areas will be expected to report upon the implementation progress for each strategy on a regular basis throughout the financial year.

See Table 19 Standards for interventions for MSM populations.

10.8 Methods of evaluation

All HMAs should submit an annual action plan detailing their activities under the above headings. All activities should have clear objectives and measurable outcomes. Program consultants will be asked to review SEE activities with program areas on a biannual basis. An annual report of SEE activities (including MSM interventions) within funded HMAs should be submitted to program consultations for review.

Table 19. Standards for interventions for MSM populations

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• All local providers should receive notification of the emergence of syphilis outbreaks in MSM. • Annual reports on syphilis in MSM in locality to be produced and distributed to all providers (private and public) in locality at least once annually. In areas with rapidly progressing epidemics a more frequent correspondence should be considered. • All HMAs to identify and create partnerships with health care providers reporting substantial numbers of syphilis and HIV among MSM clients. This should be reviewed on annual basis.	A
• Locally appropriate mechanisms for ensuring community participation (e.g., working groups, community forums etc.) should be identified by each HMA. This should be documented and reviewed annually. • All HMAs with MSM epidemics should have a multi-disciplinary, multi-partner workgroup on MSM and syphilis/ sexual health issues.	A
• All HMAs to routinely collect information on syphilis in MSM by end 2006. • Data on MSM syphilis epidemiology and local risk factors should be reviewed on quarterly basis by the local SE coordinator and working group (including community partners). • Annual reports on syphilis in MSM in locality to be produced and distributed to all providers (private and public) in locality at least once annually. In areas with rapidly progressing epidemics a more frequent correspondence should be considered.	A
• All STD clinic staff to participate in at least 1 training session annually on cultural/gender/sexuality sensitivity training and MSM health. This should include sexuality, sexual behaviors, drug use, and other health and psychosocial issues faced by MSM. • Each STD clinic should nominate 1 DIS to lead on MSM health issues. He/she should act as a liaison for local MSM providers and facilitate collaborations with ISP.	A
• Each HMA should have at least one DIS specializing in the internet partner notification and MSM. They should be responsible for coordinating a working group on internet activities and developing annual plan of activities/ interventions with internet providers.	A
• All sexually active HIV+ MSM attending public treatment centers should be screened every 6 months for syphilis as part of their routine HIV care investigations. In outbreak sites this may be increased to quarterly.	A
• All HMAs may consider extending STD clinic services to non-traditional hours (evening and weekends) specifically targeting MSM clientele for syphilis testing. This may be combined with other sexual health interventions.	A
• Local sites should plan at least 1 major MSM targeted health promotion and education intervention per annum during rapid increase and hyperendemic epidemic phases. These may be new or adapted health promotion interventions.	A
• This intervention may be useful in the acute phase of an outbreak where cluster investigations may yield high number of cases. It may also be recommended as part of a community wide awareness raising and screening program.	C
* Local sites should clarify and document pathways for referral to drug treatment programs for MSM grappling with crystal methamphetamine use and addiction.	B

11 Jail screening for Syphilis Elimination

11.1 Executive Summary

I. Depending on the locale, a substantial proportion of all early syphilis cases are reported from corrections facilities.

II. In many HMAs, jail inmates manifest disproportionately higher rates of syphilis and show evidence of disproportionately high risk behaviors that include injection drug use, unprotected sex, multiple sex partners, sexual assault, and commercial sex workers.

III. STD testing in corrections facilities should form part of any comprehensive STD prevention program. However, partnerships with jails may be challenging. Contrasting missions (public health vs. security) and limited fiscal and human resources present challenges when implementing screening for syphilis in jails.

IV. In many county jail systems, 70%– 80% female arrestees have been involved with drugs or prostitution. Between 6%–10% are pregnant and are frequently referred for prenatal care for the first time. In effect, the jail is often the last line of defense to address poor health care seeking behavior or the inability of the community health delivery system to reach this population with health services.

V. Jails have the potential to reach some MSM affected populations in some project areas. A good example is the LA County Jail, which has a unique SE success story in its K-11 unit, which houses self-identifying MSM inmates.

VI. Identifying programs with promising "Lessons Learned" that are transferable across geographic regions may be difficult, but is key to improving program implementation and evaluation.

VII. Over the past few years, public health and the SE effort has been significantly enhanced because of the availability of early testing and treatment services for the incarcerated community in county jails. Thus, the inclusion of jail health services in the community health delivery system may be a public health imperative in some HMAs.

11.2 Key questions for the SEE Consultation Meeting

1. How well has model jail based syphilis intervention programs performed when compared to other SE interventions and activities (i.e., syphilis case management activities, community outreach syphilis testing, enhanced syphilis testing or treatment hospital ERs, etc.)?
2. At what point should an HMA initiate jail screening vs. sentinel surveillance?
3. In those project areas where virtually no jail testing services occur, what are the specific issues and what types of technical assistance is needed to ensure jail-based syphilis testing in those project areas?
4. To what extent does the SEE corrections initiative need collaborative partnership with private and governmental corrections entities?

11.3 Definitions and rationale for inclusion in the 2006 Plan

For the purposes of this document, the term jail is used to describe a confinement facility administered by a county or city, typically a law enforcement agency. Jails are intended for adults that are detained pending adjudication, or persons committed after adjudication, usually for sentences of a year or less.[176]

STD prevalence is estimated to be higher in persons in corrections facilities than in the general population. Arrestees are at high risk for STD infection because of: substance abuse; high-risk sexual behaviors, multiple sex partners, including commercial sex work; and limited access to health

care. In terms of health disparities and racial/ethic trends, African Americans and Latinos have the highest case rates for P&S syphilis in jail and prison settings.[176] Because ethnic and racial minorities, especially African Americans and Latinos, are arrested and convicted at much higher rates than whites, communities of color are disproportionately affected.[176] In addition, most syphilis found in jails was contracted in the community.

Untreated syphilis moves from the community, through jails, back to the community. Jails have a very rapid turnover of clientele; the average stay is 48 hours. It is estimated that between one-quarter and one-half of all arrestees spend less than 24 hours in a lock-up facility.[176] Jails serve as temporary holding facilities that release infected persons in relatively short time back into the community often without any concerted effort to detect asymptomatic infected persons.

The Institute of Medicine report, "The Hidden Epidemic," recommended providing STD services in prisons, jails, and juvenile facilities as part of a comprehensive STD prevention program.[177] STD testing in jails is important for STD control in the community and may be critical for the success of SE.

Routine syphilis screening, however, is a limited activity in jails. Screening for syphilis at intake offers an opportunity to identify asymptomatic infected persons, and reduce transmission in the community. In many cities and counties, experiencing increased syphilis morbidity, where routine screening takes place in jails, a substantial percentage of all reported cases are identified from these facilities.[178] The following are two syphilis sero-prevalence tables from the CDC's Jail Prevalence Monitoring Project for calendar years 2002 and 2003 by gender and project area. As indicated, there is a high sero-prevalence in women arrestees.

Routinely compiling data and analyzing trends in STD prevalence including syphilis in this population provides a method for monitoring trends in STD prevalence in the community.

CDC's DSTDP initiated twelve performance measures in its 2005 CSPS cooperative agreement. The primary purpose for implementing performance measures is to improve STD prevention in the United States. Performance measures are important and useful tools for program management and facilitate the comparison of programmatic efforts over time, encourage project areas to implement "Lessons Learned," and make explicit what STD prevention programs are trying to accomplish. Of the 12 performance measures grantees are required to report on annually, one is specific to screening women in selected county adult jails.[179]

Table 20. Syphilis serology of men and women in adult corrections facilities, 2002

State	Men			Women		
	No. of Sites	No. of Tests	Median % Reactive (Range)	No. of Sites	No. of Tests	Median % Reactive (Range)
Arizona	1	20,032	1.7	1	3,027	3.9
California	1	2,853	2.7	1	1,162	2.1
Illinois	1	84,883	0.9	1	14,495	3.6
Maryland	1	15,257	3.3	1	5,117	9.5
North Carolina	1	226	3.1	1	103	5.1
Tennessee	1	7,095	3.6	1	1,525	9.1
Texas	4	32,424	4.9 (4.6-5.2)	4	11,324	12.2 (0.6-19.0)
Total	10	**162,770**	**3.2 (0.9-5.2)**	**10**	**36,753**	**7.1 (0.6-19.0)**

Table 21. Syphilis serology of men and women in adult corrections facilities, 2003

State	Men			Women		
	No. of Sites	No. of Tests	Median % Reactive (Range)	No. of Sites	No. of Tests	Median % Reactive (Range)
Arizona	1	10,953	2.3	1	950	9.2
California	4	3,728	2.5 (0.2-8.3)	2	2,732	3.0 (2.4-3.6)
Illinois	1	75,747	0.9	1	12,119	3.4
Maryland	1	15,615	2.2	1	5,839	7.5
Massachusetts	1	900	3.9	1	113	6.2
New Jersey	2	18,025	2.4 (1.8-2.9)	2	2,775	7.0 (3.2-10.7)
North Carolina	1	1,693	4.5	1	396	10.4
Tennessee	1	15,458	3.4	1	3,005	9.0
Texas	1	25,520	1.9	1	6,159	8.7
Total	13	**167,639**	**2.3 (0.2-8.3)**	**11**	**34,088**	**7.5 (2.4-10.7)**

Performance Measure: Proportion of female admittees entering selected project area adult city and county jails who were tested for syphilis.

Rationale: By identifying and treating hard-to-reach, at-risk females, programs will reduce the costly late complications of syphilis and congenital syphilis. Treatment prior to release aborts the further spread of syphilis in the community; thereby substantially contributing to the local SE effort in some communities. From 1999 to 2002, syphilis testing services in jails identified 7,725 early syphilis cases, of which 2,974 were females. The total number of female corrections cases (including all stages of syphilis) for this period of time was 6,294.[179]

Strategic References: Corresponds to GPRA performance goal # 2: "Reduce the incidence of P&S syphilis"; HP 2010 goals 25-3: "Eliminate sustained domestic transmission of P&S syphilis" and 25-9: "Reduce congenital syphilis"; and IOM goal #3: "Design and implement essential STD related services in innovative ways for adolescents and under served populations.[179]

Although corrections facilities have historically been a useful venue for identification and control of early syphilis, the mass screening and treatment of a population segregated by sexual orientation has not been systematically evaluated. In 2000 the Los Angeles County Men's Central Jail (LACMCJ) maintained an inmate unit (K-11) that houses approximately 400 self-identified MSM voluntarily segregated from the general population. During an outbreak of syphilis in MSM, the LA County STD Program initiated screening, prophylactic treatment, high-risk behavior detection, and education.[180] Many of the cases of early syphilis were identified in the K-11 Unit. However, when jails are a syphilis screening venue for MSM, it has been regarded as of little or no value for SE strategies. This can be especially misleading for planners of SE activities. It is important to remember the K-11 unit at the LA County Jail and the crucial role it played in the 2001 syphilis epidemic in LA.[180] To be brief, the model STD prevention program at K-11 was identified as a major success story by several public health officials, including the SE Unit at CDC. The evaluation of this program showed that it played a key role in containing the epidemic, particularly in the general community. A critical message for STD programs is that they should carefully review the epidemiology of syphilis in each community and respond accordingly.

The National Commission on Correctional Health Care (NCCHC) recommended universal, routine screening be offered to all inmates in corrections facilities, regardless of behavioral risk profile for STD for two reasons. First, many individuals with a

sexually transmitted infection may be asymptomatic and therefore unaware that they are infected. Second, most of the population that enters the corrections system does not have continuous access to good-quality primary health care outside of the institution.[181]

Despite the recommendation by NCCHC, many jails (with limited resources) do not routinely screen all inmates. Some jails do not have routine screening policies but rather screen only if signs or symptoms are present or upon an inmate's request. Furthermore, in facilities that fully implement routine screening policies, routine screening may be delayed for up to 14 days post intake to lower jail health care costs. As a result, many jail inmates are released back into the community and the opportunity to screen and treat is lost.[182]

As part of a report to Congress on the health status of soon-to-be-released inmates, NCCHC used decision analysis models to estimate the cost effectiveness of routine screening for syphilis on intake in U.S. prisons and jails.[183,184] Data were collected from existing literature and from expert opinion. Results indicated that it may save money to routinely screen on intake for syphilis as compared with no screening on intake. When decision models consider the benefits of averting all stages of syphilis, a routine screening program for both men and women in jails and prisons will be more effective and less expensive than not screening on intake as long as the prevalence of early syphilis is greater than 1%. These decision models did not include the substantial costs of HIV attributable to syphilis or the costs of congenital infections and stillbirths.[184]

11.4 Summary of the intervention outlined in the 1999 Plan

The jail as a venue for identifying untreated syphilis should be viewed as a component of the community-at-large. The 1999 plan encouraged state and local STD programs to strengthen community involvement and partnerships.[1,6] The plan encouraged STD programs to expand clinical and laboratory services to non-traditional settings to increase access to and utilization of STD preventive and care services. This decision should be based upon current epidemiologic data; sites deserving strong consideration for these activities include jails.[1,6]

11.5 What are the key issues facing the effectiveness of this intervention today?

During the period 2000 to 2004, CDC conducted 36 SE program assessments. In recognition of the importance of jails as a community partner, these assessments appraised local and state STD program activities specific to promoting community involvement and participation. CDC staff reviewed STD programs to assess their ability to expand clinical and laboratory services to non-traditional venues (schools, community-based organizations, jails, etc.) in response to increasing syphilis morbidity. Because of these assessments, some STD programs enhanced existing or implemented jail-based screening programs. Some programs documented successes as well as challenges to sustaining jail-based syphilis screening.

11.6 Key strategies related to this intervention for inclusion in the 2006 Plan

11.6.1 Establish or maintain effective partnerships with jails as a member of the community

Inmate populations should be recognized as members of the community-at-large, thus the "revolving door" effect by arrestees between the community and jail necessitates proactive and intentional collaborations to affect the burden of disease within the community. The creation or maintenance of practical partnerships between public health and the jail can improve the programmatic value of local SE efforts and benefit the community-at-large.[1,6,182,183]

The SEE should recommend and support the use of jails as a community-based setting for case finding, disease surveillance, and treatment; and for operational research, demonstration projects and program evaluation.

11.6.2 Collection of accurate jail-based syphilis surveillance data

Having accurate surveillance data is critical to any intervention. Jail-based surveillance data that includes age, race, sex, provider, risk factors, etc., affords the local area the ability to monitor programmatic activities, disease, sexual orientation, risky behavior, and reporting trends, keep partners informed, etc.

The SEE should recommend and support the implementation of jail-based data collection

Table 22. Success and challenges in jail-based screening

Successes	Challenges
• Innovative solutions to data management and data dissemination between health department and jail. Use of a Microsoft Access database to facilitate the management of intake records. • Innovative STD/Jail partnerships in response to the outbreak. • Merging of resources in response to the problem. • Providing additional health department support during the second or third shift during the booking process. • Appropriate use of rapid testing technologies (RPR) during intake/booking process. • Local area jail screening and morbidity reporting practices permit accurate assessment of venue-based (jail) reported morbidity.	• Inadequate data management systems and data dissemination between health department and jail. • Inability to create meaningful partnership with jail staff. • Lack of resources to support screening effort. • Not using rapid syphilis testing technologies (RPR) during intake/booking process. • Some challenges to effective screening and testing procedures are specific to corrections facilities, where testing for syphilis and HIV occurred only between the third and fourteenth day of incarceration, which resulted in many high risk arrestees being bonded out before being tested and/or treated. • Determining cost effectiveness of the intervention and the effect of syphilis interviews in jail on the community. • Limited or no control over the implementation of STD screening in jail. • Inability to transfer Lessons Learned to other geographic areas. • Local area jail screening and morbidity reporting practices prohibit accurate assessment of venue-based (jail) reported morbidity. • Inability to provide timely and appropriate technical assistance. • Limitations in providing quick STD services to high risk pregnant women.

Table 23. Lessons learned and best practices

The assessments also provided central lessons (Table 23). In addition to the lessons learned, findings from the assessments suggested emerging "Best Practices" that are relevant for sustaining and implementing jail-based screening.

Lessons learned	Best practices
• In cases where database integration or access to patient records is a problem, specially designed database systems and contractual arrangements that specify data-sharing arrangements with providers may enhance the sharing of critical patient data.	• In some instances local jurisdictions, in response to increased syphilis morbidity, have developed facility-specific solutions that may be transferable to other areas of the country.

that encourages jurisdictions to accurately report disease burden and trends as the result of screening in corrections venues (jails).

11.6.3 Improve information management systems and data-sharing capabilities

Effective information systems allow public health to a) monitor disease trends; b) collect data to improve decision making; c) collect and use data for planning interventions; and d) ensure effectiveness, accessibility, and quality health services.[2] Information sharing between the health department and the jail should be timely and minimizes duplication of effort.

The SEE should recommend and support the development of MIS systems that use standard data formats and a communications infrastructure that enhances data access, sharing and protects patient confidentiality.

11.6.4 Cross-training experiences for public health and detention staff

Enhancing jail and public health staff's knowledge of each agency's mission is critical to any effort to establish an effective and functional jail screening initiative. This cross-training should focus on ensuring participant's understand each agency's mission/purpose, as well as its benefits to the community's health.

The SEE should recommend and support collaborative cross-training experiences for jail and public health staff.

11.7 Standards for intervention

See Table 24 Standards for jail screening for SE.

Table 24 Standards for jail screening for SE

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• State and local HDs should establish a community/corrections leadership group that includes cross-section of jail, health, and community, private sector partners to identify needs, set priorities and facilitate communications.	A
• State and local HDs should develop formal MOU/MOA to formalize partnerships.	B
Where indicated, HMAs should: • Collect venue-based syphilis case data by race, sex, age, arrest codes, and risk-factors (i.e., sexual orientation). • Review data from jail-based syphilis morbidity and arrestee risk factors reviewed on quarterly basis by project area syphilis coalition for trends and when indicated redirection of programmatic effort. • Distribute annual reports to all relevant project area providers (private and public).	B
• Support the use of electronic medical record systems that, while not violating a patient's privacy, enhances disease reporting and follow up. • Ensure that the data system is maintained and upgraded routinely to ensure the efficiently management of jail-based screening and intervention data.	C
• This should be done in collaboration with the CDC, the PTCs and include the American Jail Association, the National Commission on Correctional Heath Care and the DSTD PTCs as subject matter experts and advocacy partners.	C
• Establish and maintain collaborative data collection and reporting relationships. • Support and monitor the use of CDC STD treatment guidelines, NCCHC clinical guidelines and performance standards. • Establish joint public health/corrections group to address operational research, demonstration and program evaluation needs.	B

11.8 Methods of evaluation of the intervention

Project areas should have clear objectives and measurable outcomes. Evaluation plans should document, when indicated, that the project area objectives and outcomes are in sync with the appropriate jail-based performance measure. The Health Services and Evaluation Research Branch (HSREB) and the PDSB will work together to review project area evaluation plans for appropriateness and when indicated recommend technical assistance to improve jail-based screening efforts. Project areas will report annually on all SEE-funded activities for review by CDC program and evaluation staff.

The implementation and evaluation of jail-based performance measures should be an on-going, dynamic process at the local and national level. Documenting that the level of syphilis testing/treatment services in the jail is consistent with what is required to eliminate syphilis in the community is often imperative to success. It is essential to evaluate the effect of early testing/treatment services on reducing syphilis morbidity.

12 Training and staff development in the Syphilis Elimination Effort

12.1 Executive Summary of key points in the paper

I. Skills related to STD intervention and specifically SE, are very specific and require highly targeted types of training.

II. Training is not only vital to establish the knowledge and skills of those involved in STD intervention, it is necessary for the ongoing development and enhancement of knowledge and skills.

III. Programs should be aware of the wide variety of training resources available.

IV. Management and supervisors must take responsibility for assuring and prompting the application of knowledge and skills obtained through training.

12.2 Key questions for the SEE Consultation Meeting

1. What are the current SEE training needs?
2. What are the barriers to training and how can programs overcome barriers such as travel restrictions and limit resources?
3. How can we raise the priority of training in program agenda?
4. How do training needs change or differ during various phases of disease outbreaks?

12.3 Definitions and rationale for inclusion in the 2006 Plan

Training is defined in the *Program Operations Guidelines (POG) for STD Prevention* [185] as a set of activities designed to develop specific skill levels of workers who are required to perform various public health activities. Training is not only necessary for establishing skills; it is an ongoing process necessary for the maintenance and enhancement of skills.

The POG dedicates an entire chapter to training and professional development of those involved in STD intervention. Training is described as an essential element in developing expertise and skills. The Institute of Medicine's (IOM) *Future of Public Heath*[186] sites the continuing evolution of public health as justification for the constant need to update and enhance the knowledge and skills of those involved in Public Health.

Training is noted in the 1999 *National Plan to Eliminate Syphilis*[1] as one of six support activities essential for effective STD Programs.

12.4 Summary of training as outlined in the 1999 Plan

While the 1999 national plan to eliminate syphilis had only two paragraphs specifically addressing training, there were more than 40 references to training throughout the plan. In the section specifically addressing training, the plan identified a number of individuals involved in SE activities who may have need for training. Those needing training will vary from program to program and may involve health department personnel, private providers, laboratorians, and community representatives.[187] The plan goes on to identify specific topics necessary for SE activities. These topics include:

- Clinical and laboratory methods.
- Behavioral intervention approaches.
- Data management and analysis.
- Community involvement techniques.
- Social and behavioral assessment.
- Health communication.
- Evaluation.

12.5 Assessment of progress to date with training

CDC and its training partners have made progress in several areas since 1999. While some projects have been completed and implemented others are in various stages of completion. During the development of the SE Plan, a meeting was held focusing on "Developing Strategies for SE." During this meeting inadequacies in DIS training were identified. To address these inadequacies the Advanced STD Intervention (ASTDI) course was developed for DIS. SE funds were provided to develop this course in 2000 and 2001. ASTDI is the first course developed specifically for DIS in over 15 years. Since being introduced in 2001, more than 500 DIS have participated in this training.

In the 1999 SEE Plan it was recommended that revisions and updates be made to the Introduction to STD Intervention (ISTDI) course.[188] Revisions to the ISTDI course are currently under way. The Texas Prevention Training Center (PTC) has contracted with the American Social Health Association to work along with the PTCs and CDC to develop an updated curriculum. It is expected that a revised course will be piloted early in 2006.

Another project untaken to address inadequacies in DIS training was the revision of the Employee Development Guide (EDG), frequently referred to as the "DIS Modules." The EDG had not been updated since 1992. Rather than simply update the information within the EDG, CDC made the decision to completely restructure the EDG utilizing modern technologies to make the EDG an interactive CD training program. The beta version of this program is near completion and expected to be released in July or August of 2005.

Also identified in the "Developing Strategies for SE" meeting was the need for improved effectiveness of first-line supervisors. The CDC "STD Intervention for Supervisors" (STDIS) has been modified to ensure that correlation with the newly developed EDG, the Introduction to STD Intervention course, and the Advanced STD Intervention course.

The PTCs have developed and now offer training related to cultural awareness/competency. CDC has also updated the STD Training page on the internet (located at www.cdc.gov/std/training) to make it easier to find course descriptions and other training information.[189]

CDC's Training and Health Communications Branch (THCB) has developed a SEE Community Mobilization Toolkit. It is designed to give state and local HDs the tools to reach out and build coalitions and alliances needed to mobilize specific target audiences. Target-specific materials in the kit will increase local awareness, visibility and salience of the SE program. It will support efforts to change or modify knowledge, attitudes, behaviors, and perceptions about syphilis and the SEE; will educate political leaders, health care providers, and community leaders, encouraging community involvement and support for the program.[190] THCB has not only developed this tool but provides training for its implementation and use.

12.6 Key issues regarding training today

While significant progress has been made in regards to training, there are issues that need to be considered and addressed. First, there are training deficits that were not specifically addressed in the 1999 plan but need to be addressed, including:

- Case management.
- Partner notification.
- Internet partner notification.
- Specialized courses for programs with specific needs.

Other issues to be considered are time and money. Training courses require that staff be away from their work areas for days at a time. With many STD programs already minimally staffed, having employees attend trainings puts additional burden on a program's ability to adequately provide services while staff attend training courses. Likewise, STD program budgets are extremely tight and having staff attend training courses often requires travel to locations where courses are being offered. Travel is not only a financial burden on STD programs, but many state and local HDs, as a result of budgetary constraints, have implemented severe restrictions on travel.

Quality assurance in training is another factor to consider. CDC, as well as state and local STD programs must ensure uniformity in all course materials, making sure course curriculum is grounded in current program guidelines.

Finally, post course support by supervisors and management must be provided to those who do attend training courses to ensure that knowledge

and skills obtained through training is utilized and supported.

12.7 Key strategies related to training for inclusion in the 2006 Plan

12.7.1 Assess program staff to determine training needs

Assessments would not only involve a review of statistical information such as number of patients examined or contact index, but also would involve direct observation of the desired skills.

12.7.2 STD Program should identify available training opportunities and resources

Note:

One role of the PTCs, RTCs, and AETCs is to respond to the need for specific training identified by the project area managers. The PTCs and RTCs provide training based on a list of core topics but can also develop specific training or in-service seminars based on program needs. Program managers should consider the location and the course-work offered by the different centers and decide which one of the training centers best meets their program needs. Each type of center operates differently and has slightly different target audiences and each center may offer a slightly different curriculum.

This should be an ongoing activity given training opportunities may become available throughout the year. Programs should make themselves aware of trainings provided outside of the medical or public health community. Courses for communication, supervisory skills, and computer skills (as well as other topics) may be available locally eliminating the need for travel. Within the health community, programs should be familiar with the training resources listed below.

The STD/HIV PTCs. The PTCs provide STD clinical, behavioral, and partner counseling training. The clinical training is provided regionally, and the health behavioral and partner counseling/partner services training is provided nationally. The PTCs also work directly with STD project areas to assist in identifying training needs and developing specific training responses. PTCs provide training for clinicians (physicians, physician assistants, nurse practitioners, RNs); laboratorians; health educators; public health social workers; mental health, alcohol, and substance abuse workers; disease intervention specialists, and family planning and other partners.

Regional Training Centers (RTCs). The RTCs provide reproductive, clinical, contraceptive management, supervisory, health education, HIV risk/harm reduction, and other training. The RTCs target health care audience is mainly health care providers who work in family planning, maternal and child health, gynecology, and other reproductive health programs.

AIDS Education and Training Centers (AETCs). The HRSA AETCs provide targeted, multi-disciplinary HIV training programs for primary health care, allied health, minority health, and mental health care providers. The majority of AETC resources have been focused on areas of high HIV prevalence and incidence, with remaining resources allocated on suburban and rural needs. AETC activities are based on assessed local needs.

CDC, NCHSTP, DSTDP. In addition to managing the cooperative agreements for the PTCs, the Division provides training and development support in such areas as development of Disease Intervention Specialist; first-line supervisory development; and medical professional development.

Public Health Training Network (PHTN). Public Health Practice Program Office offers the PHTN, which is a distance learning system designed to meet the training needs of the public health workforce nationwide. Some of the subject areas addressed by this program are general public health practice, core public health skills training, prevention program training, tuberculosis prevention, and HIV/AIDS and other sexually transmitted disease prevention.

NCHSTP, DHAP, Training and Technical Support Services Branch. The branch provides training in HIV prevention counseling for state and local trainers (training of trainers). Training is offered in the areas of prevention counseling, quality assurance for prevention counseling, substance abuse, issues affecting patients who test positive for HIV/STD, men who have sex with men, and women's health care needs.

Schools of Public Health and Schools of Medicine. These schools offer medical professional training and education opportunities, as well as graduate-level

development in the essential elements of public health and public health practice.

Partnerships. Partnerships may be created with academic institutions, MCOs, specialty societies, and local or state medical societies to provide training, education, in- service seminars, and other methods of staff development. Partnerships that provide training assistance to external partners are often a highly effective way to leverage health department resources to strengthen collaboration and influence STD prevention efforts broadly in the community.

Topic experts. Topic experts in local and state HDs, community-based organizations, family planning organizations, etc., may be good resources to provide in-service seminars or specific process training.

STD Project Areas. When training needs assessments identify needs that cannot be addressed by existing sources, local project area training management should develop the required training. This may include in-service information workshops, training workshops, or on-the-job training experiences. Training contractors can be used to meet specific project area training needs. The PTCs and CDC can also be used in developing and implementing specific training programs.

12.7.3 STD programs should ensure adequate training of supervisors

Direct supervisors should be knowledgeable about the particular STD prevention roles and functions of their workforce and knowledgeable about tasks and skills required to perform these activities. This is essential for the ongoing identification of training needs, for support after staff members have attended training courses, and for the enhancement of staff knowledge and skills. First-line supervisors should:[191]

- Have knowledge of the purpose, objectives, and overall content of training available for members of their staff.
- Prepare staff for attending training events.
- Ensure that staff are fully aware of the purpose of and the need for training.
- Ensure that staff understand the requirements and expectations for their participation in training.
- Ensure or reinforce on-the-job application of skills developed through training.
- Support these skills through staff development efforts.
- Be actively involved in such on-the-job development activities as demonstrating skills, observing performance, offering constructive feedback.
- Act as a mentor.
- Assess the skill levels of staff through performance observation, feedback, and performance outcome review and evaluation.
- Identify and address barriers to the effective performance of any staff member not related to training, such as motivation, communications, or attitude.

12.7.4 STD prevention programs should assign one or more management staff to be accountable for training and staff development

In smaller programs, a lead person, other than management may be designated to take responsibility.[191]

12.7.5 Efforts must be made by management to ensure the application of new skills and knowledge occurs in staff members who have participated in training events

Management and supervisory personnel should be knowledgeable about the training and staff development activities being provided to their employees, should clearly understand the associated knowledge and skills being developed by these activities, and should prepare workers to attend training or education events. After training, participants should be given the opportunity to review the developmental experience and determine how it should be put into practice on the job. Supervisors should reinforce application of new skills and knowledge through activities such as demonstration, performance observation and feedback, mentoring, and other on-the-job development activities.[192]

12.8 Standards for training

See Table 25 Standards for training and staff development.

Table 25 Standards for training and staff development

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• CDC and project areas to use existing performance review mechanisms to identify training needs of staff related to SE on an annual basis.	B
• CDC to identify and disseminate training opportunities for SEE coordinators.	A
• CDC to identify and disseminate training opportunities to SEE coordinators, and project areas.	B
• All HMAs to develop local SEE evidence-based action plans by FY 2007.	A

The standards of training activities should include demonstrable skills and measurable competencies. The intensity and content of training activities for health professionals may vary considerably. Training may take place as part of the formal professional or career development curricula, as part of continuing education activities, or as a specific event. In all cases, training should be a part of a planned management effort consistent with program objectives, performance requirements, and should provide required knowledge and skills proficiency necessary for the job. These should be the determining factors regarding frequency and content of training.

12.9 Methods of evaluation of training

Assessing effects of skills development on performance

The assessment of training needs and the evaluation of training activity effectiveness, conducted in collaboration with the employee, are critical steps in improving individual and overall staff performance. Results from these efforts help management to identify and address skills deficiencies, improve resource utilization, determine cost-effectiveness of training efforts, and provide necessary feedback to training sources to improve the quality of the content and the process of training activities. These efforts also aid in identifying other program management needs that affect staff performance, such as employee and supervisory communications, administrative and operational policy and guidelines, and work environment. The evaluation of training activity effectiveness is a critical step in developing staff performance. Results of such efforts provide important information that addresses the effectiveness of skills development efforts and supports implementation of needed operational and administrative policy related to training and staff development. Programs should have or should develop specific plans to establish a system of quality assurance for training and human resource development. A quality assurance system includes documentation, procedures, and processes to assure that staff members are performing functions according to established standards of performance directly related to the accomplishment of an organization's mission and objectives. This relates to the performance management and review process, and to the associated job descriptions and performance standards or requirements.

The quality assurance system should recognize the importance of human resource development in meeting staff performance objectives. Program managers should work with the agency's Department of Human Resources or Department of Personnel to define, document, and establish responsibility for human resource development in support of staff performance. The quality assurance system should include documented procedures for identifying training and human resource development needs and for providing required training and development of personnel performing STD prevention activities. The system should also include an internal audit or assessment process to review effectiveness of training and staff development program efforts in developing the needed skills, knowledge, and expertise, and in improving the quality of job performance.

Direct observation of on-the-job performance is the best method to evaluate the skills of health care professionals. To ensure systematic, objective feedback, an observation checklist should be used, an

assessment of skills and abilities should be provided, and results of the observed activities should be discussed with the individual. Direct observation should be conducted before and immediately after training and periodically thereafter.[193] Assessment of health care professionals at their work sites also provides information that can inform them of future training sessions, such as additional topics or specific areas that need more emphasis.[194]

Training that is a one-time effort or that is not put into practice can waste precious human and financial resources. Supervisory and program support are critical to the effect of the training on actual on-the-job performance and to the improvement of performance in a given STD prevention activity. Supportive supervision also contributes significantly to an employee's application of new skills and principles. When participants are not able to apply new skills and information, they can become demoralized, and training can lose its credibility.[195]

13 Evidence-based action planning: increasing accountability

13.1 Executive Summary

I. "People don't plan to fail. Instead they fail to plan." Evidence-based action planning is one strategy for ensuring that all key steps of local SE plans are implemented to ensure success.

II. The action plan states specifically what steps or tasks will be accomplished to achieve the objective. It includes a schedule with deadlines for significant actions, resources necessary to achieve the objective, and methods to measure the objective.

III. Evidence-based action plans gives credibility to the organization; ensures all components are considered; grounds local interventions in reality; improve efficiency and accountability.

IV. Evidence-based action planning is a key component of CDC's Futures Initiative in order to make decision making explicit in order to reach strategic goals.

V. For SEE the following interventions are recommended:

- All HMAs should create annual SEE action plans.
- SEE action plan objectives should be evidence based, specific and measurable.
- SEE local action plans should be of high quality and conform to recommend standards.
- Writing of the local SEE action plan should be led by the local SEE coordinator in partnership with STD program manager.
- Communicating the local SEE action plan should be proactive with multiple methods being used to ensure wide dissemination.

VI. Action plans should be evaluated on an ongoing basis. Their content will be reviewed and agreed by CDC SEE team/ PDSB. Local SEE coordinators should review progress on a quarterly basis; and 6-monthly performance reports should be submitted. An annual SEE action plan report should produced by the HMA for review to CDC SEE team.

13.2 Key questions for the SEE Consultation Meeting

1. How can we increase accountability for SEE related activities in the field?
2. Apart from action planning, are there other ways of improving monitoring and implementation of SEE related activities in the field? What are they? How can they be implemented?
3. How do we increase the efficiency of our monitoring activities in the field.

13.3 Definitions and rationale for inclusion in the 2006 Plan

"People don't plan to fail. Instead they fail to plan." To avoid failure of local implementation, it makes sense to take all of the steps necessary to ensure success, including developing an action plan.

Evidence-based action planning is one strategy for changing those practices which may limit the success of local SE activities. An action plan states specifically what steps or tasks will be accomplished to achieve set objectives. It includes a schedule with deadlines for significant actions, resources necessary to achieve the objective, and methods to measure the objective.[196–198]

There are many reasons to include local evidence based action planning in the SEE strategy, including:

- To lend credibility to the organization — an action plan shows members of the community that your organization is well ordered and dedicated to getting things done.

- To be sure no details are overlooked in the planning process.
- To understand what is and isn't possible for your organization to do.
- For efficiency — to save time, energy, and resources in the long run.
- For accountability — to increase the chances that people will do what needs to be done.

13.4 Summary of issues as outlined in the 1999 Plan

Evidence-based action planning was not directly addressed in the 1999 SEE strategy. However, the strategy specifically outlined the need for leadership in the successful implementation of the SEE and interventions. Evidence-based action planning provides one simple tool for identifying key activities, the resources required to implement them, and a blueprint for evaluating whether interventions are effective.

13.5 What are the issues for evidence-based action planning and syphilis today?

CDC, as part of the Futures Initiative, has adopted evidence-based action planning as a mechanism for ensuring that the Agency and its partners make explicit its decision making regarding who is going to do what; by when; and in what order, so that the organization reaches its strategic goals. Evidence-based action planning is a key component of goals management being implemented by the CDC.

CDC's commitment to strategic planning is commensurate to the extent that the Division and its local partners in SE a) complete action plans to reach each strategic goal and b) includes numerous methods for verifying and evaluating the actual extent of implementation of the action plan.

The format of the action plan depends on the nature and needs of the organization (i.e., state, local, and national levels). The plan for the organization, each major function, each manager and each employee, might however specify:

1. The goal(s) that are to be accomplished;
2. How each goal contributes to the organization's overall strategic goals;
3. What specific results (or objectives) much be accomplished that, in total, reach the goal of the organization;
4. How those results will be achieved; and
5. When the results will be achieved (or timelines for each objective).

The better local SE interventions are planned, managed, and monitored the more successful they are likely to be. Not everyone feels comfortable about setting standards or agreeing to continuous evaluation of their practice. Change of any kind is not always welcomed.

13.6 Key strategies related to evidence-based action planning for the 2006 Plan

13.6.1 All HMAs should create an annual evidence-based action plan?

Action plans should be drawn up for each HMA. Specific plans should relate to disease elimination objectives. Each objective should include an action plan, which "operationally defines" the objective by expressing it in terms of specific actions or operations. The action plan should be used to help the SEE coordinator and SEE team stay organized, coordinate activities, and keep projects on schedule.

An action plan is always a work in progress. It should not be written, locked in file drawers, and forgotten about. It should be kept highly visible and displayed prominently. As the organization changes and the local epidemic evolves, the plan should be continually (usually monthly) revised to fit the changing needs of your group and community.

The SEE Strategy should recommend that completed evidence-based action plans be requested for all new HMAs from 2006 onwards and for all existing HMAs from 2007 onwards. It should be developed once local HDs have developed the vision, mission, objectives, and strategies of their local SEE.

13.6.2 Developing objectives and timelines

SEE objectives be evidence-based, specific, with measurable results produced while implementing strategies. When identifying objectives, it is important ask "Is this feasible?". Wherever possible, STD program managers should try to integrate the current year's objectives as performance criteria in

the SEE coordinators (and other implementers) job descriptions and performance reviews. Remember that objectives and their timelines are only guidelines, not rules set in stone. They can be deviated from, but deviations should be understood and explained.

The SEE strategy should recommend that all local SE action plans be backed by evidence, and be integrated into the performance of coordinators and local action teams.

13.6.3 Formatting the action plans

Different organizations adopt their own formats for action plans. Note that it's wise to distribute copies of the plan to major stakeholders (community based organizations, HIV program colleagues, etc.). Therefore, the format of the plan should be organized such that the body of the plan can be sent outside of the organization and the appendices can include the more confidential and detail-oriented documents — documents which may also tend to change a lot. The format of the plan should fit the culture and preferences of the organization.

Consideration should be given to having all SEE HMAs agree and utilize a standard format for developing local SEE action plans.

13.6.4 Writing the plan

We recommend that a small number of people write the first draft of the plan. An outside facilitator (someone hired from outside of the organization to facilitate the planning process) should not be the one who writes the plan. The draft should be presented to the STD Program manager and local SEE advisory board/ task force/ and upper management for review and approval. Employees and other staff often provide the major input to the action planning portion, including the objectives, responsibilities and timelines for completion of objectives.

The SEE strategy should recommend that all local SE action plans, once developed, be shared locally and made widely available for review by stakeholders.

13.6.5 Communicating the strategic plan

Note that certain groups of stakeholders might get complete copies of the plan, including appendices, while other groups (usually outside of the organization) might receive only the body of the plan without its appendices. We recommend that the following strategies be considered for the communication and dissemination of local SE action plans.

1. Every board member and member of management should get a copy of the plan;
2. Consider distributing all (or highlights from) the plan to everyone in the organization;
3. Post your mission and vision and values statements on the walls of your main offices. Consider giving each employee a card with the statements (or highlights from them) on the card;
4. Publish portions of your plan in your regular newsletter, and advertising and marketing materials (brochures, ads, etc.);
5. Train STD program members and employees on portions of the plan during orientations;
6. Include portions of the plan in policies and procedures, including the employee manual; and
7. Consider copies of the plan for major stakeholders, for example, funders/investors, trade associations, potential collaborators, vendors/suppliers, etc.

13.7 Standards for SEE evidence-based action plans

An action plan is a way to make sure local SE goals are made concrete. It describes the way local HMAs will use its strategies to meet its objectives. See Table 26 Standards for SEE evidence-based action plans.

13.8 Methods of evaluation

All HMAs to develop an **annual** SEE action plans for consideration and approval by CDC (program consultant/ SEE coordinator to review). SE coordinators will be asked to host **quarterly** reviews of their action plans and to submit a summary of their progress to local advisory group and program consultant. Program consultants will be asked to review progress on action plans on a **6-monthly** basis with program areas. HMAs will be required to submit a formal written report of progress on action plans to CDC **annually**.

Key indicators for evaluation are:

- 100% of all funded HMAs to action plans by October 1st, for funding in 2007 for FY 2008.
- 100% of strategies should be supported by appropriate evidence.

Table 26 Standards for SEE evidence-based action plans

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• All HMAs to develop local SEE evidence-based action plans by FY 2007.	A
• Annual updates of local SEE evidence-based action plans to be submitted to CDC by 1 October of each year.	A
• All SEE action plan objectives should be SMART (specific, measurable, achievable, reproducible, time limited). • Each action step or change to be sought should include the following information: º **What** actions or changes will occur. º **Who** will carry out these changes. º **By when** they will take place, and for how long. º **What resources** (i.e., money, staff) are needed to carry out these changes. º **Communication** (who should know what?).	A
• Local SEE coordinators, in partnership with appropriate senior STD program managers should prepare the first draft of the SEE plan for submission to	A
• All HMAs should consider dissemination of their local SEE plans by at minimum 3 of the following strategies: 1. Copy of plan sent to PHD Board; 2. All members of PHD receive copy of plan; 3. Local SEE mission, vision and value statements to be disseminated to local staff; 4. Parts of plan published in local PHD correspondence; and 5. STD program staff trained on parts of the plan.	A

- >80% of included objectives should meet the SMART criteria (specific, measurable, achievable, reproducible, time limited.

13.9 Appendix: Creating evidence based action plans

Different organizations adopt their own formats for action plans. Note that it's wise to distribute copies of the plan to major stakeholders (community based organizations, HIV program colleagues, etc.). Therefore, the format of the plan should be organized such that the body of the plan can be sent outside of the organization and the appendices can include the more confidential and detail-oriented documents — documents which may also tend to change a lot. The format of the plan should fit the culture and preferences of the organization. However, for the SEE, one possible recommendation would be for all SEE funded HMAs to adopt the following format for developing local SEE action plans. See Table 27 Formatting the action plan

In addition, local SEE coordinators may want to consider including the following sections to provide additional context to the action plan.

- Executive Summary — This is written to the scope and level of content that an "outsider" can read the summary and grasp the mission of the organization, its overall major issues and goals, and key strategies to reach the goals.
- Authorization — This page includes all of the necessary signatures from the board of directors (if applicable) and other top management designating that they approve the contents of, and support implementation of, the plan.

See Table 27. Formatting the action plan

SEE Strategic Goal	Local HMA Strategy	Evidence for adoption of the strategy	Objective	Responsibility	Timeline
1. (Goal #1)	1.1 (first strategy to reach Goal #1)	1.1.1 (on what empiric basis or evidence is this strategy being proposed)	1.1.1.a (first objective to reach while implementing Strategy #1.1)	(who's going to accomplish that objective)	(when the implementer is going to be accomplish that objective)

- Organizational Description — This section describes, for example, the beginnings and history of the organization, its major products and services, highlights and accomplishments during the history of organization, etc.
- Mission, Vision and Values Statements — These statements describe the strategic "philosophy" of the organization.
- Goals and Strategies — Lists all of the major strategic goals and associated strategies identified during the strategic planning process.
- Appendices — **(The appendices often include information that is somewhat confidential, detail-oriented or tends to change a lot.)**
    - Action Plan (see format above) — Specifies objectives, responsibilities, and timelines for completion of objectives.
    - Description of Strategic Planning Process Used — Describes the process used to develop the plan, who was involved, the number of meetings, any major lessons learned to improve planning the next time around, etc.
    - Strategic Analysis Data — Includes information generated during the external analysis (for example, environmental scan) and internal analysis (for example, SWOT analysis), and includes listing of strategic issues identified during the these analyses.
    - Budget Planning — Depicts the resources and funding needed to obtain and use the resources needed to achieve the strategic goals. Budgets are often depicted for each year of the term of the strategic plan.
    - Financial Reports — Includes last year's budget (with estimated expenses and the actual amounts spent), this year's current budget (again with estimated amounts and actual amounts spent), a balance sheet (or in the case of nonprofits, a statement of financial position), income statement (or in the case of nonprofit, a statement of financial activities), etc.
    - Monitoring and Evaluation of Plan — Include criteria for monitoring and evaluation, and the responsibilities and frequencies of monitoring the implementation of the plan.
    - Communication of Plan — Describe the actions that will be taken to communicate the plan or portions of it, and to whom.

14 Evaluation and quality assurance of the Syphilis Elimination Effort

In the beginning, God created the heaven and the earth.
And God saw everything that he made.
"Behold," God said, "it is very good."
And the evening and the morning were the sixth day.
And on the seventh day God rested from all His work.
His archangel came then unto Him asking,
"God, how do you know that what you have created is "very good"?
What are your criteria? On what data do you base your judgment?
Just exactly what results were you expecting to attain?
And aren't you a little close to the situation to make a fair and unbiased evaluation?"
God thought about these questions all that day and His rest was greatly disturbed.
On the eighth day God said, "Lucifer, go to hell."
Thus was evaluation born in a blaze of glory.[199]

14.1 Executive Summary

I. Prioritize. Put first things first, don't sweat the small stuff.

II. Make explicit standards. Explicit standards provide direction; vague standards provide deflection.

III. Monitor at all levels. You get what you inspect, not what you expect.

IV. Share findings. If you invent the wheel, you should share it.

14.2 Key questions for the SEE Consultation Meeting

1. Should SEE require written priorities and standards to be developed at the local, project area and federal levels?
2. If so, how could SEE ensure the adoption and routine evaluation of these priorities?
3. Should SEE require and support monitoring at the local, project area, and federal levels?
4. How much time and money should be committed to these activities?

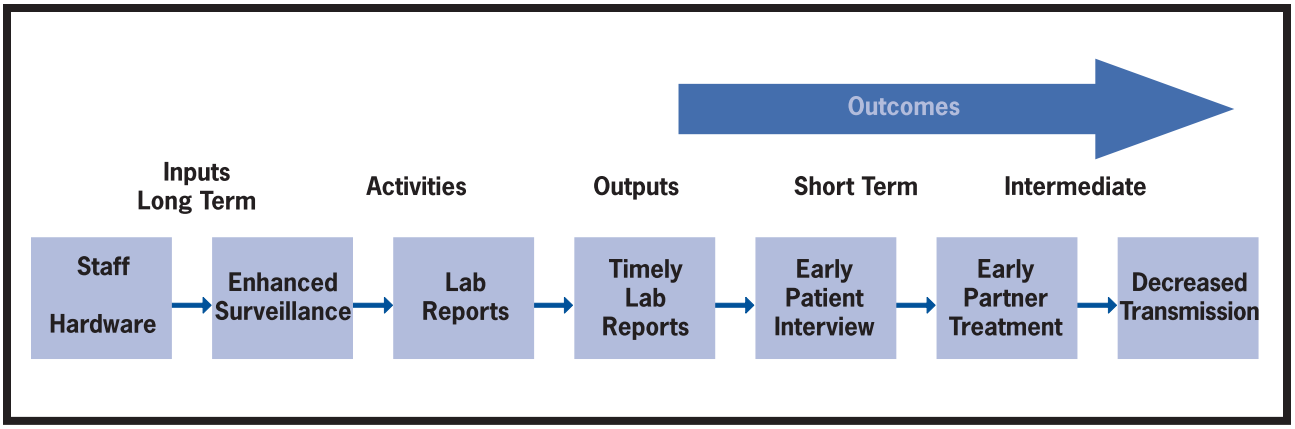
14.3 Definitions and rationale for inclusion in the 2006 Plan

If you don't know where you're going,
you'll end up somewhere else.

Yogi Berra

Program evaluation is essential to monitor and improve planning and management. **Program** evaluation is a systematic way to improve and account for actions. It answers the question, "why?" or "why not?" It relies on a collaborative process to identify priorities and commit to addressing shortcomings. Evaluation is only worthwhile if results are used to improve program outcomes. There are two types of evaluation. **Outcome evaluation** determines whether the activities result in changes in the target population (e.g., increased knowledge, decreased disease). **Process evaluation** determines whether activities are implemented as intended.

Monitoring and **Quality assurance** are types of process evaluation that involve assessing and documenting program procedures to assure that activities have been performed appropriately, and are contributing to the success of the program. Monitoring is often focused on developing information systems to provide data on processes and outcomes.



For example, to reduce P&S syphilis cases to 1,000, it is essential to concentrate on activities that are most likely to help achieve this goal. One example, to reduce transmission of syphilis, is presented above.

Starting from the right and working to the left, if a long term outcome is "decreased transmission of syphilis," a program could identify that earlier partner treatment would lead to decreased transmission. Once "early partner treatment" is identified, the next step would be to identify what would lead to ensuring that sex partners were treated earlier. This requires early interviews of syphilis patients which is dependent upon rapid physician or laboratory reporting. Each step builds on the one previous, and may be affected by numerous other factors.

The issue remains, however, that in order to reach the long term outcome, STD prevention programs must have confidence that all steps leading to it (e.g., the timeliness of reports, the quality of enhanced surveillance) must have been successfully accomplished.

14.4 Expectation of evaluation as outlined in the 1999 Plan

The SE plan calls for evaluation of surveillance systems, health promotion, and other interventions. A quality assurance section calls for written standards and procedures specific to local needs developed with partners and consistent with the SE plan. Six examples are listed including "observe DIS syphilis interviews or field activity by first-line supervisors."

The evaluation section calls for both process and outcome evaluation of the national effort as well as evaluation of cross-cutting and intervention strategies at the state and local levels. Three examples were provided, including "evaluation of the comparative effect and acceptability of various outbreak response strategies."

The appendix (A–E) lists an astonishingly clear set of about 150 steps to be taken for the five strategies; including specific steps for HDs, CDC, and prevention partners. Approximately two-thirds of these are measurable. For example, health departments will "review annually reporting time spans of physicians and laboratories and provide feedback to those not in compliance." CDC will "within 6 months, develop standards for providing accessible and available STD services." Progress on these steps was not well monitored or reported.

14.5 Progress to date with evaluation

Most of the time-phased, measurable, objectives listed in the 1999 plan were not monitored for completion. Three project areas were funded in 2003 to evaluate selected aspects of their community partnerships. The sites worked with stakeholders to develop questions that included:

- What was the community's perception of outreach efforts?
- Was the priority population being reached?
- How many tests and positive test results were there at each screening site?

In one site, the evaluation demonstrated that the community thought that syphilis outreach was a good idea and should be continued. However, during the study year, no positive syphilis tests were detected among the 1500 people screened. Based on these findings, the program decided to screen for syphilis at other venues to see if infections could be detected elsewhere.

Another activity that could be considered evaluation is the Program Assessments that were conducted for all of the 36 SE funded sites.

Following the visits, sites were provided with lists of recommendations with areas for improvement that typically contained 50–100 items. A contractor developed a report summarizing these visits.[13] The report notes that the wide variability in program types was a challenge to standardizing approaches to STD control. It identifies, as a pervasive problem, inadequate flow of epidemiologic, behavioral, and administrative information among the various stakeholders involved in STD control.

A model is proposed to help outline the ideal flow of information and identify problems occurring at various levels. The report also listed approximately 200 issues that pose a challenge to some programs, and 200 issues that were noteworthy successes for other programs. Often the list reported the same issue as a challenge for one program and a success for another (i.e., absence of a darkfield log, maintenance of a darkfield log). The report lists 27 cross-cutting themes and 38 emerging best practices related to the five SE strategies.

14.6 Key evaluation strategies for inclusion in the 2006 Plan

1. Prioritization is essential at all program levels, Local, State, Federal;
2. There should be explicit standards at all levels;
3. There should be routine monitoring at all levels to see that standards are met and priorities are being addressed; and
4. Share findings at all levels. Mechanisms to facilitate sharing should be developed.

14.7 Applying the 4 key evaluation strategies

14.7.1 Local

A DIS supervisor talks with the DIS and the program manager and decides that interviewing persons with lesions to identify their partners is more important than tracing persons who have positive syphilis IgG, negative FTA, and negative RPR. The program manager writes a list of high and low priorities for follow up that is shared with the staff and other stakeholders. **(Explicit standards)** This list includes: "All cases of early syphilis will be initiated for interview within 2 working days of receipt of the report by the health department." (Monitor) The DIS supervisor checks all cases for each DIS and records in a database the number of days between receipt of report and initiation for interview. During the course of work on this, two bottlenecks are discovered and corrected. The average time from report to initiation falls from 4 days to 2. **(Share findings)** The changes made to improve response time are shared with other Project Area staff at a regional meeting.

14.7.2 Project Area

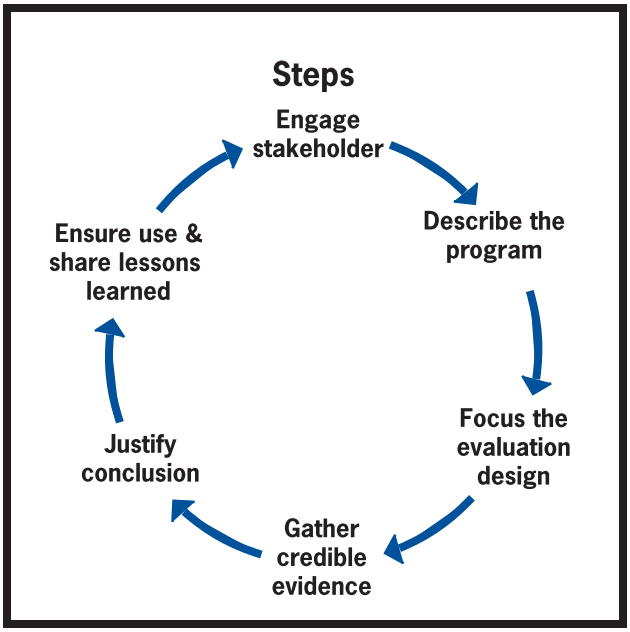
(Prioritize) The Project Area notes that many syphilis cases are occurring in MSM who are HIV infected and receiving care. A priority is to increase syphilis screening by private providers. **(Explicit standards)** A standard is that "All private providers caring for >50 HIV infected MSM will be visited once per year and encouraged to screen, report, and to understand the value of partner notification. **(Monitor)** All local programs within the state are required to report how many providers there are in their area with >50 HIV-infected MSM, and the dates they were visited by DIS. **(Share findings)** One local health department notes that several providers have been encouraging their patients to discuss partners with the DIS, and that this has increased the success of interviews.

14.7.3 Federal

(Prioritize) The CDC meets with stakeholders and decides that a high priority is responding rapidly to high-titer syphilis serologies to enable rapid treatment of partners of persons with early syphilis. **(Explicit standards)** A standard is that "All high titer RPRs (>256) should have a record search and (if necessary) a call to the provider within 2 working days of receiving a report to the health department. **(Monitor)** CDC monitors and reports the time from report to phone calls to physician's offices for all Project Areas. Project Areas compile reports from local programs to forward to CDC. **(Share findings)** Programs that call providers for 95% of high-titer cases within 2 days share their approach with programs that are having trouble meeting this goal.

14.8 Standards for evaluation

In 1999 CDC published its newly developed standard approach to evaluate programmatic activities.[1,136] The CDC framework takes into consideration stakeholder involvement, the prioritization of potential evaluation topics, and the importance of using and disseminating findings, as well as a general plan for operationalizing evaluation of program activities.



The figure above is a graphical representation of CDC's Framework for Program Evaluation. An example of how it could be used to evaluate outreach to MSM is described below.

Step 1. Engage stakeholders — Stakeholders might include the STD program director, STD and CBO staff, members of the target population of MSM, and the state laboratory. The input of these stakeholders would be critical in determining their needs, interests, concerns, and involvement. Findings from evaluations with a high level of stakeholder involvement are more likely to be used than those with a low level of stakeholder involvement.[1,200]

Step 2. Describe the program — The program draws a diagram showing how resources and activities can address objectives and work to meet program goals. It considers alternative approaches to achieving those objectives. In such interventions with many complex steps, information on intermediate steps is essential for attributing the observed outcomes to the intervention.[201,202] The STD program believes that CBOs can help increase awareness syphilis among MSM, leading to symptom recognition, behavior change, and less transmission.

Step 3. Focus the evaluation design — Once stakeholders are aware of the connections across SE program activities and the logical progression to desired outcomes, priority evaluation activities need to be determined. Questions might include:

1. Were chosen venues appropriate;
2. Were the materials acceptable;
3. How many MSM were reached; and
4. Was awareness increased?

Step 4. Gather credible evidence[1,203] **—** If the stakeholders choose as a priority the question of venue appropriateness, they might identify two indicators: a) the number of MSM reached at each venue (determined by reviewing outreach logbooks); and b) MSM feedback on site selection (brief interviews of a sample of MSM across venues).

Step 5. Justify conclusions — Analysis showed that two sites reached more MSM than all others combined. Interviews consistently recommended that the STD program advertise outreach activities in the local gay newspaper. Based on these findings, the stakeholders recommended that the STD program focus activities on the two more productive sites and redirect funds from other sites into media activities.

Step 6. Ensure use and share lessons — All stakeholders received written reports; some attended presentations of the findings. Findings were also shared with SE coordinators in other project areas, and at the national STD conference. As a result of this evaluation, the STD program discontinued outreach at two venues, redirected funds to the gay newspaper to advertise outreach activities, and developed a brief report for the local gay newspaper on their efforts.

See Table 27 Standards for evaluation.

14.9 Methods of monitoring and evaluating SEE evaluation

1. Explicit priorities, standards, and monitoring plans should be written for each level.
2. Responsibilities for monitoring:
   - Local standards and monitoring activities should be monitored by the Project Areas.
   - Project Area standards and monitoring activities should be monitored by the Federal Program.
   - Federal Program standards and monitoring activities should be monitored by Congress and the Project Areas.

A lack of monitoring and process evaluation often leads to programs that do not reach intended outcomes. This failure may then be attributed to the ineffectiveness of the method, rather than to the failure of the program to properly apply the method. For example, a school district implemented a program to reduce unwanted

Table 27. Standards for evaluation

Grades of recommendation: A — Strongly recommended: Good evidence, benefits substantially outweigh harms, should be prioritized. B – Recommend: At least fair evidence, benefits outweigh harms. C — Insufficient evidence. Uncertain balance of benefits and harms — lack of evidence on clinical outcomes, poor quality of existing studies, or conflicting results — may make recommendations based on other grounds.

Standard	Rating
• Prioritized, evidence-based interventions to be provided by all HMAs using the action planning template by FY 2007.	A
• Activities and recommended standards to be provided with the launch of the SEE Plan by end 2006.	A
• SEE funded project areas to submit 6-monthly progress reports on SEE activities to CDC based upon their action plans. • CDC to undertake summative evaluation of SEE support to project area during the penultimate year of funding.	A
• All SEE funded areas and the CDC to work together to identify key opportunities for sharing findings of SEE evaluation activities on a regular basis. These findings should be disseminated widely.	B

pregnancy. At the end of the funded 4-year program, no reductions in unwanted pregnancy were identified. However, an evaluation of the implementation of this project demonstrated that while all teachers received training, only a minority incorporated the methods into their classes. Those who used the methods incorporated the program into fewer than half of their lessons. No monitoring plan, with explicit standards, was in place.[202] There was no observed change in student behaviors because the program was not implemented as designed.

3. Specific evaluations should be undertaken at the Federal level to determine if the existing standards and monitoring plans are helping local programs eliminate syphilis.

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