# Supplementary Appendix 1. Sources and Citations for Recommended STD or Related Clinical Services

## Table 1. Prevention Services, Screening, and Partner Services

| Category | Source and Citation |
|---|---|
| Sexual History and Physical Examination | |
| Sexual history and risk assessment | CDC (*1*), WHO (*2*), BASSH (*3*) |
| External genital examination | CDC (*1*), AAP (*4*), WHO (*2*), BASSH (*3*) |
| Pelvic examination (females) | CDC(*1*) , AAP (*4*), WHO (*2*), ACOG (*5*) |
| Anoscopy | CDC (*1*) |
| Colposcopy | CDC (*1*) |
| Prevention | |
| Condom provision | CDC (*1*), AAP (*6*), WHO (*2*) |
| Hepatitis A vaccination | CDC, ACIP (*1*,*7*) |
| Hepatitis B vaccination | CDC, ACIP (*1*,*8*) |
| HPV vaccination | CDC (*9*), (*10*) |
| Emergency contraception | CDC (*1*,*11*), AAP (*12*), CDC/OPA (*13*) |
| STD/HIV prevention counseling | USPSTF (*14*), CDC (*1*,*15*), AAP (*16*) |
| PrEP risk assessment, education, and referral/linkage to HIV care | CDC, USPHS (*17*,*18*) |
| PrEP and nPEP provision | CDC,USPHS (*17*), CDC (*13*) |
| Screening | |
| Gonorrhea | USPSTF (*19*), CDC (*1*,*20*), AAP (*21*) |
| Chlamydia | USPSTF (*19*), CDC (*1*,*20*), AAP (*21*) |

| Category | Source and Citation |
|---|---|
| Screening | |
| Syphilis | USPSTF (*22*,*23*), CDC (*1*), AAP (*21*) |
| Hepatitis B | USPSTF (*24*), CDC (*25*) |
| Hepatitis C | USPSTF (*26*), CDC (*27*) |
| HIV | USPSTF (*28*), CDC (*29*), AAP (*16*) |
| Cervical cancer | CDC (*1*) |
| Trichomoniasis | CDC (*1*) |
| Partner Services | |
| Verbal instruction to patient to notify partners and ask them to seek care | CDC (*1*,*15*), 30 |
| Interactive counseling for partner notification | CDC (*15*,*31*,*32*), BASHH (*33*), Cochrane (*34*) |
| EPT | CDC (*1*,*31*,*35*), SAHM (*36*), AAP (*37*) |
| Health department disease intervention specialist elicitation of sex partner information to identify those who may have been exposed and to identify patient follow-up needs | PHAB (*38*) |

## Table 2. Evaluation of STDs or Related Conditions

| Evaluation of STD-related Conditions | Source and Citation |
|---|---|
| Genital ulcer disease | CDC (*1*), BASHH (*3*), WHO (*2*) |
| Male urethritis syndrome | CDC (*1*), BASHH (*3*), WHO (*2*) |
| Vaginal discharge syndrome | CDC (*1*), BASHH (*3*), WHO (*2*) |
| Pelvic inflammatory disease | CDC (*1*), BASHH (*3*), WHO (*2*) |
| Genital warts | CDC (*1*), BASHH (*3*), WHO (*2*) |
| Proctitis | CDC (*1*) |
| Ectoparasitic infections | CDC (*1*), WHO (*2*) |
| Pharyngitis | CDC (*1*) |
| Epididymitis | CDC (*1*) |
| Systemic or dermatologic conditions compatible with or suggestive of an STD cause | CDC (*1*) |

## Table 3. Laboratory Services

| Laboratory Services | Source and Citation |
|---|---|
| Gram stain, methylene blue, or gentian violet stain for urethritis | CDC (*1*,*20*) |
| NAAT for gonorrhea and chlamydia | CDC (*1*,*20*) |
| Gonorrhea culture and antimicrobial susceptibility testing | CDC (*1*,*20*) |
| Extragenital NAAT for gonorrhea and chlamydia | CDC (*1*,*20*) |
| Treponemal serologic test for syphilis | CDC (*1*) |
| Stat qualitative non-treponemal serologic test for syphilis | CDC (*1*) |
| Darkfield microscopy for syphilis | CDC (*1*) |
| Tests for trichomoniasis | CDC (*1*) |
| Tests for bacterial vaginosis | CDC (*1*) |
| Tests for vulvovaginal candidiasis | CDC (*1*) |
| pH paper | CDC (*1*) |
| Thermometer | CDC (*1*) |
| Wet mount microscopy | CDC (*1*) |
| Urine dipstick | CDC (*1*) |
| Urinalysis with microscopy | CDC (*1*) |
| HSV viral culture or PCR | CDC (*1*) |
| HSV serology | CDC (*1*) |
| Test for HIV | CDC (*1*,*39*) |
| Test for HIV viral load | USPHS (*17*) |
| Test for HPV | CDC (*1*) |
| Test for pregnancy | CDC, U.S. OPA (*40*) |
| Serologic tests for hepatitis A, B, and C | CDC (*1*) |
| PrEP and nPEP | CDC, USPHS (*17*), CDC (*13*) |

## Table 4. Treatments for STD or Related Conditions

| Treatments for STD or Related Conditions | Source and Citation |
|---|---|
| Gonorrhea | CDC (*1*) |
| Chlamydia | CDC (*1*) |
| Nongonococcal urethritis | CDC (*1*) |
| Syphilis | CDC (*1*) |
| Trichomoniasis | CDC (*1*) |
| Bacterial vaginosis | CDC (*1*) |
| Vulvovaginal candidiasis | CDC (*1*) |
| Herpes | CDC (*1*) |
| Genital warts | CDC (*1*) |
| Urinary tract Infection | CDC (*1*) |
| PrEP and nPEP | USPHS (*17*), CDC (*13*) |
| Emergency contraception | CDC (*1*,*11*), AAP (*12*), CDC/OPA (*13*) |

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# Supplementary Appendix 2. Literature Review Search Protocol and Criteria

| Search Protocol | Criteria |
|---|---|
| **SEARCH_TOPIC:** | Key Question: What STD-related clinical services should be offered to persons with or at risk for STDs, including asymptomatic persons, by clinicians delivering specialized STD care compared to clinicians offering basic STD care? DRAFT SEARCH TERMS: (Sexually transmitted diseases OR Sexually transmitted infection OR Syphilis OR Treponema pallidum OR Chlamydia trachomatis OR Chlamydia OR Chlamydia infections OR Gonorrhea OR Neisseria gonorrhoeae OR Trichomonas OR Trichomonas infections OR Trichomonas vaginilis OR Trichomonas vaginitis OR Bacterial vaginosis OR Chancroid OR Human Papillomavirus OR Herpes genitalis OR Genital ulcer OR Genital warts OR Urethritis OR Cervicitis OR Vaginal discharge OR Pelvic inflammatory disease OR Human Immunodeficiency Virus OR HIV infections OR AIDS OR Sexual health) AND (Medical history taking OR Sexual history (title/abstract) OR Medical records OR Office visits OR Physical examination OR Gynecological examination OR Risk assessment OR Risk reduction OR Risk-taking OR Counseling OR Sex counseling OR Education OR Patient education as topic OR Health education OR Health promotion OR Sexual behavior OR Sex factors OR Prevention OR Primary prevention OR Screening OR Mass screening OR Prenatal screening OR Prenatal diagnosis OR Diagnosis OR Diagnostic tests OR Diagnostic techniques OR Serological tests OR Microscopy OR Detection OR Specimen collection OR Point-of-care systems OR Therapy OR Treatment OR Medication OR Medication adherence OR Directly observed therapy OR Penicillin G benzathine OR Ceftriaxone OR Post exposure prophylaxis OR Chemoprevention OR Chemoprophylaxis OR Contraception OR Contraceptives OR Contact tracing OR Partner notification OR Disease notification OR Sexual partners OR Unsafe sex OR Follow-up OR Referral and consultation OR Time factors OR Health services accessibility OR Confidentiality OR Legislation & jurisprudence OR Legislation OR Health knowledge, attitudes, practice OR Attitude of health personnel OR Attitude to health OR Physician-patient relationship OR Patient preference OR Patient compliance OR Patient acceptance of health care OR Patient satisfaction OR Guideline adherence OR Guidelines OR Practice Guidelines OR Utilization OR Process assessment OR Evaluation studies OR Program evaluation OR Program development OR Follow-up studies OR Quality OR Quality indicators OR Quality assurance OR Quality of healthcare OR Delivery of health care OR |

| Search Protocol | Criteria |
|---|---|
| | Health services needs and demands OR Health services OR Resource allocation OR Capacity building OR Health personnel OR Physician's practice patterns OR Specialization OR Primary care OR Primary health care OR Physician's offices OR Private practice OR Pediatrics OR Internal medicine OR Family practice OR Physicians, family OR General practitioners OR Obstetrics OR Gynecology OR Nurse-led clinics OR Nurse clinicians OR Nurse practitioners OR Nurse midwives OR Physician assistants OR Health educators OR Pharmacists OR Community health workers OR Community health centers OR Ambulatory care OR Ambulatory care facilities OR Outpatient clinics OR Adolescent health services OR Student health services OR School health services OR Reproductive health services OR Family planning services OR Women's health services OR Prisons OR Managed care programs OR Medicaid OR Insurance, health, reimbursement OR Emergency service, hospital) |
| **SEARCH_SUGGESTIONS:** | Pubmed, Embase, Cochrane Library, CINAHL, PsycINFO, Scopus |
| **LIMITS_LANGUAGE:** | English only |
| **LIMITS_DATES:** | January 1, 1985 to May 2015 |
| **LIMITS_HUMANS:** | Humans only |
| **SPECIES_DETAILS:** | |
| **LIMITS_AGES:** | |
| **LIMITS_GENDER:** | No Gender Limits |
| **LIMITS_PUB_TYPES_None:** | Yes |
| **LIMITS_PUB_TYPES_ClinicalTrials:** | No |
| **LIMITS_PUB_TYPES_Reviews:** | No |
| **LIMITS_PUB_TYPES_CaseReports:** | No |
| **LIMITS_PUB_TYPES_Other:** | |
| **LIMITS_PUB_TYPES_EXCLUDE:** | Commentaries, letters, editorials |
| **LIMITS_ADDITIONAL:** | Setting: United States, Canada |
| **SYSTEMATIC_REVIEW:** | No |
| **RESULTS_FORMAT:** | EndNote |

| Search Protocol | Criteria |
|---|---|
| **SEARCH_PURPOSE:** | Literature Search/Review |
| **SEARCH_TYPE:** | Librarian Please Choose |
| **SEARCH_SCOPE:** | Broad |
| **COMMENTS:** | POPULATION: Persons with or at risk for STDs, including asymptomatic persons, in the United States. INTERVENTION: Specialized STD care. COMPARISON: Basic STD care. OUTCOMES: Sexual history (initial medical history, annual exam, each visit, if relevant to chief complaint); risk assessment; external genital examination; pelvic examination for females; screening [for chlamydia, gonorrhea, syphilis, and HIV]; specimen collection; onsite diagnostic tests [for syphilis, gonorrhea, trichomonas, and bacterial vaginosis]; onsite medications (e.g., benzathine penicillin G, ceftriaxone); directly observed therapy [for gonorrhea and chlamydia]; partner notification and treatment; expedited partner therapy; risk reduction counseling. SETTINGS: STD clinic, infectious disease clinic, primary care practice (internal medicine, family medicine, pediatrics, general practice), obstetrics/gynecology, family planning clinic, adolescent health clinic, community health center, federally qualified health center, school based health center, university student health service, emergency room, correctional institution. SAMPLE QUESTIONS: (1) (1) What percentage of providers offer STD screening, counseling and prevention services in their practices? What are the barriers/challenges for providers to offer STD screening, counseling and prevention services in their practices? (2) What percentage of providers manage STD related syndromes (e.g., vaginal discharge syndrome, male urethritis syndrome, genital ulcer disease, pelvic inflammatory disease, genital warts) in their practices? What are the barriers/challenges for providers to manage STD related syndromes in their practices? (3) What percentage of providers offer STD diagnostic tests onsite in their practices? What are the barriers/challenges for providers to offer STD diagnostic tests onsite in their practices? (4) What percentage of providers offer onsite medications for the treatment of STDs in their practices? What are the barriers/challenges for providers to offer onsite medications for the treatment of STDs in their practices? |

# Supplementary Appendix 3. Summary of Literature Review Findings

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| A. Risk Assessment, Sexual History, and Counseling | | | |
| A1) Guerry et al. J Gen Intern Med, 2005;20:1102-7 | Survey of a random sample of primary care physicians and all primary care nurse practitioner members of the California Coalition of Nurse Practitioners in California. Eligibility criteria included providing primary health care to sexually active patients under the age of 30 in the past 3 months. 708 physicians (response rate: 49%) and 895 nurse practitioners (response rate: 63%) completed the survey. | 2001-2002 | Physicians were more likely to report taking a sexual history from 15-25 year olds at routine annual (73%) or new patient visits (66%) compared with acute care, non-STD related visits (21%). Taking a sexual history at routine annual visits varied significantly by specialty: adolescent medicine (95%), OB-Gyn (85%), pediatricians (85%), family practitioners (69%), internists (67%), and general practitioners (66%). Over 80% of physicians routinely asked about recent sexual activity, 55% asked about number of sex partners, 55% about gender of sex partners, and 30% about sexual practices (i.e., oral, vaginal, anal intercourse). 47% of physicians reported routinely screening women age 25 or younger for chlamydia. Presented with a scenario of a nonpregnant patient with a positive chlamydia test, 74% of physicians reported providing risk-reduction counseling, 96% advised patient to inform partners, 46% provided medicine for male partner, 42% provided medicine for female partner, and 73% reported case to health department. 19% of physicians reported on site free condoms, 33% reported on site urine-based chlamydia testing, and 38% reported azithromycin on site. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| A. Risk Assessment, Sexual History, and Counseling | | | |
| A2) Boekeloo et al. American Journal of Public health, 1991;81(12):1645-8 | Telephone survey of primary care physicians (IM, FP, GP, and OB-Gyn) in Washington DC randomly selected from the AMA list of office-based practicing physicians. The response rate was 60% (961 responded). | 1989 | 37% of primary care physicians always/often asked new adult patients about their sexual practices. 60% of physicians always/often asked new adolescent patients. 71% of physicians always/often asked new patients about history of STDs. Fewer always/often asked new patients about condom use, sexual preference, anal or oral sex, or number of partners. |
| A3) Wimberly et al. Journal of the National Medical Association, 2006; 98(12):1924-9 | Survey of Atlanta-area primary care physicians (OB-Gyn, internal medicine, general/family practice, pediatrics). 416 completed mail survey (34% response rate). | 2003-2004 | 55% asked about sexual activity at initial medical history, 55% during an annual exam, 76% if relevant to chief complaint, and 6% at each visit. The percent asking about sexual activity during routine exams (annual visit or each visit) was higher among female than male physicians (72% vs 45%). It was higher among pediatricians (75%) and OB-Gyn (68%) than family practice (59%) and internal medicine (39%). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| A. Risk Assessment, Sexual History, and Counseling | | | |
| A4) Melville et al. Texas Medicine, 2004; 100(6):60-4 | Survey of private primary care practitioners in Texas (mainly family practitioners, internal medicine, and OB-Gyn). There were 376 completed telephone interviews (42% response rate). | 2001 | 40% of the practices reported conducting a risk assessment for STD with all of their patients, 4% with none of their patients, 91% with patients perceived to be at risk, 96% with patients with a previous STD diagnosis, and 96% with those patients who raise the subject themselves. OB-Gyn practices (55%), physicians providing care for HIV-infected persons (58%), and female physicians (84%) were more likely to assess all of their patients for risk of STDs. For the types of questions included in an STD risk assessment, more than 90% of the practices asked whether or not the person is sexually active and has a history of STD. Other questions about risk behavior that may help identify persons at high risk (e.g., sexual preference, number of sex partners) were asked less commonly. |
| A5) Torkko et al. Pediatrics, 2000;106(3), e32 | Survey of a 25% random sample (n=1265) of Colorado physicians (family practice, internal medicine, OB-Gyn, pediatrics), nurse practitioners, and physician assistants. Response rate was 72%. | 1998 | 72% of providers regularly took a sexual history; and 54% regularly tested sexually active female adolescents for chlamydia. OB-Gyns, nurse practitioners, and pediatricians were most likely to regularly take a sexual history (90%, 89%, and 76%, respectively); internal medicine physicians were the least likely (44%). Pediatricians and nurse practitioners were the most likely to test sexually active adolescent females for chlamydia (74% and 70%, respectively), whereas physician assistants and internal medicine physicians were the least likely (46% and 39%, respectively). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| A. Risk Assessment, Sexual History, and Counseling | | | |
| A6) Ashton et al. Sexually Transmitted Diseases, 2002;29(4):246-51 | Cross-sectional survey mailed to a random sample of primary care physicians in Pennsylvania (based on AMA Masterfile). The sample was stratified to include 40% female physicians and equal numbers of physicians in family medicine, internal medicine, OB/Gyn, and pediatrics. Response rate was 51% (541/1054). | 1998 | 70% believed their STD counseling to change sexual risk behaviors was ineffective, 48% believed their medical school training in STD-related care was inadequate, and 43% believed they were not responsible for STD prevention services for young women in their practice. 46% of physicians cited time constraints and 26% cited financial reimbursement difficulties as barriers in providing effective STD preventive services and counseling. OB/Gyn was associated with the most favorable attitudes and pediatrics with the least favorable attitudes toward STDs. Most physicians asked their 15- to 25-year old patients about sexual activity (88%) and counseled these patients about STD/HIV transmission and prevention (80%). However, fewer than half usually asked about their number of past sex partners (47%) or sexual orientation (43%). |
| A7) Fairley et al. Sexually Transmitted Diseases, 2010;37(11):665-8 | MEDLINE literature search to describe the published information on what constitutes the elements of a core sexual history and the use of computer-assisted self-interviewing (CASI) within sexually transmitted disease clinics. | 1990-2010 | 3 published articles used a combination of expert consensus, formal clinician surveys, and the Delphi technique to decide on what questions form a core sexual health history. Sexual health histories from 4 countries mostly ask about sex of the partners, the number of partners, the types of sex (oral, anal, vaginal) and condom use, pregnancy intent, and contraceptive methods. 5 published studies in the US, Australia, and the UK compared CASI with in person interviews in STD clinics. In general, CASI identified higher risk behavior more commonly than clinician interviews. CASI was found to be highly acceptable and individuals felt it allowed more honest reporting. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| A. Risk Assessment, Sexual History, and Counseling | | | |
| A8) Tao and Irwin, Sexually Transmitted Diseases, 2006;33(11):652-62 | MEDLINE literature search on gonorrhea prevention and clinical care in the private sector. | 1995-2004 | Studies of diverse settings and populations suggest that, in general, diagnostic testing of symptomatic patients (69-83%), appropriate treatment (61-100%), and case reporting (64-94%) are delivered more commonly than risk assessment for asymptomatic patients (15-28%), routine screening of pregnant women (31-77%), risk-reduction counseling (35-78%), and sex partner management (0-82%). |
| A9) Montano et al. Sexually Transmitted Diseases, 2008;35(2):154-66 | Mail survey of Washington State family physicians, general internists, OB/Gyns, nurse practitioners, and certified nurse midwives. The AMA Physician Master File and the Washington State licensure list for nurses were used for sampling. The response rate was 80%. Of the 710 respondents, analysis was limited to 519 clinicians who reported providing adult health maintenance exam. | 2000 | Clinicians provided services to selected patients they considered high risk. Universal practices were less common: risk assessment (56%), prevention counseling (60%), STD tests (30%), and HIV tests (19%). Universal services were more common among nurses, those recently trained, and those seeing more STD patients. |
| A10) Tao et al, Am J Prev Med, 2000;18(2):109-14 | 3390 adults aged 18-64 years who reported having a routine checkup during the past year in the National Health Interview Survey | 1994 | 28% of respondents reported being asked about STDs during their last routine checkup. Univariate analyses indicated that respondents who were substantially more likely to be asked about STDs were African American (37%), age 18-24 years (38%), had a household income under the federal poverty level (46%), or had public insurance (44%). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| A. Risk Assessment, Sexual History, and Counseling | | | |
| A11) Goyal et al. Journal of Pediatrics, 2014;165:343-7 | Chart audit of 1000 randomly selected 13- to 19-year old routine well visits at all 29 pediatric primary care practices affiliated with the Children's Hospital of Philadelphia. | 2011 | Of the 1000 patient visits reviewed, 212 (21%) had a documented sexual history with specific reference to sexual activity, of which 45 patient encounters were documented as being sexually active. Overall, 23 (2%) were tested for gonorrhea/chlamydia within the 12 months before the selected visits or up to 1 month after the encounter, and 16 (2%) were screened for HIV since their 13th birthday (11 patients received both GC/CT testing and HIV screening). Of the 45 patients who were documented as being sexually active, 15 (33%) underwent GC/CT testing and 10 (22%) underwent HIV screening (8 had both GC/CT testing and HIV screening). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| B. Condoms | | | |
| B1) Henry-Reid et al. Pediatrics, 2010;125(4):e741-7 | Random mailed survey of 1626 American Academy of Pediatrics members. Response rate was 46% (752/1626). Analysis was limited to 468 pediatricians who provided preventive health care to patients who were older than 11 years. | 2005 | 46% routinely recommended STI testing and 28% routinely recommended HIV testing for all sexually active teens. 30% prescribed condoms and 22% distributed condoms. Hospital/clinic-based and inner-city practitioners were more likely to prescribe and provide condoms and recommend HIV/STI tests for sexually active teens. 56% offered at least some reproductive health services (RHS) in their main practice (i.e., any of the following was routinely offered: pelvic exams, STI screening, contraception prescriptions, or administration of injectable contraception). Among those who provided RHS, specific services offered were: pelvic exams - 77%; wet mounts - 61%; gonorrhea screening - 80%; chlamydia screening - 81%; HIV screening - 74%; oral contraception prescriptions - 85%. |
| B2) Millstein et al. Journal of Adolescent Health, 1996;19:249-57 | Stratified random sample containing equal numbers of California internists, family physicians, OB-Gyns, and pediatricians was drawn from the AMA Masterfile and surveyed about their STD/HIV prevention practices for 15-18 year old patients. 1217 physicians responded (60% response rate). | | 4% of the physicians reported that they always provided condoms for their sexually active adolescent patients; 81% never provided condoms. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| B. Condoms | | | |
| B3) Kelts et al. Family Medicine, 2001;33(5):376-81 | Stratified random sample of family physicians from three NY State metropolitan areas (Buffalo, Rochester, and Syracuse) from the AMA Masterfile. 171 returned completed surveys (61% response rate). | | Family physicians asked 79% of their 15-18 year old adolescent patients about contraceptive use and 73% about condom use. Family physicians advised 78% to use condoms and gave condoms to 9% of adolescent patients. |
| B4) Klein et al. Journal of Adolescent Health, 2001;29:186-93 | Telephone survey of 14-19 year old adolescents in Monroe County, NY. 259 completed interviews (66% response rate). | 1993 | 40% reported ever having used condoms. Overall, 49% of adolescents reported knowing where they could obtain free condoms. 63% of all adolescents reported that they would obtain condoms by buying them, 14% would get them without cost, 14% would get them from friends, and 9% reported a combination of methods. Among adolescents who had used condoms, 50% reported they usually bought condoms, 22% usually got them at no cost, and 16% got from friends. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| C. Screening | | | |
| C1) St. Lawrence et al., American Journal of Public Health, 2002;92:1784-8 | 7300 surveys were mailed to a random sample of physicians from the Physician Master File of the American Medical Association (OB-Gyns, internal medicine, family practice, pediatrics, and emergency medicine). Response rate was 70% (4226 respondents). | 1999-2000 | Fewer than one third of all physicians routinely screened men or women for STDs (syphilis, gonorrhea, chlamydia, or HIV). About 50% of OB-Gyns screened non-pregnant women for gonorrhea and chlamydia. 54%-57% presumptively treated gonorrhea and chlamydia, and 38% presumptively treated syphilis. 59% routinely referred HIV patients elsewhere for management. Physicians instructed patients to notify their partners (82%-89% depending on disease) or the health department (25%-34%) rather than doing so themselves. Physicians rarely gave medication to the patient to deliver to their sex partners (3%-5%). |
| C2) Wimberly and Hogben, Southern Medical Journal, 2004;97(7):624-30 | Survey respondents included 1306 physicians practicing in 13 Southern states and DC (subset of the St. Lawrence study above). | 1999-2000 | 80% of physicians had diagnosed a curable STD in the past year, and 56% screened for any STD. Being female, African-American, or an OB-Gyn were associated with higher STD screening in multivariate analyses. |
| C3) Gift and Hogben, Academic Emergency Medicine, 2006;13:993-6 | Survey respondents included 401 emergency physicians and 3437 physicians not practicing in EDs (subgroup analysis of the St. Lawrence study above). | 1999-2000 | Compared to Non-ED physicians, emergency physicians were significantly less likely to screen male and female patients for syphilis and HIV as well as female patients for chlamydia. No significant differences were reported for screening male patients for chlamydia and male and female patients for gonorrhea. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| C. Screening | | | |
| C4) Hogben et al. Obstet Gynecol, 2002;100:801-7 | Survey respondents included 647 Ob/Gyns and 3412 Non-Ob/Gyns (subgroup analysis of the St. Lawrence study above). | 1999-2000 | Four-fifths of Ob/Gyns reported screening pregnant women for chlamydia (79%) and gonorrhea (80%), and 86% screened pregnant women for syphilis. 51-55% of Ob/Gyns reported screening non-pregnant women for chlamydia and gonorrhea, and 23% screened non-pregnant women for syphilis. Ob/Gyns screened women more frequently than Non-Ob/Gyns. |
| C5) Cook et al. Journal of Adolescent Health, 2001;28:204-11 | Random sample of 1600 Pennsylvania physicians from the American Medical Association masterfile, stratified to include at least 40% women and equal numbers of pediatricians, OB/Gyns, internists and family physicians. Physicians were excluded if they did not provide routine (primary) care or gynecological care to women aged 15-25 years. Response rate was 51%. | 1998 | The questionnaire included a clinical scenario that asked whether STD screening would be performed on an asymptomatic, sexually active 19-year-old woman presenting for her annual gynecologic exam. Only one-third of physicians responded that they would screen for chlamydia. In multivariate analysis, physicians were more likely to screen patients if they were female (43% vs. 24%), worked in a clinic vs. a solo practice (60% vs. 18%), worked in a metropolitan location (46% vs. 26%), or had a patient population $\geq$ 20% African American (54% vs. 25%). Physicians were less likely to screen if they believed that the prevalence of chlamydia was low (10% vs. 41%). |
| C6) Tao et al. Sexually Transmitted Diseases, 2012;39(8):605-7 | Analysis of data from the National Survey of Family Growth to estimate annual chlamydia testing rates. | 2006-2008 | Among sexually active women aged 15-25 years, the annual chlamydia testing rate was 38%. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| C. Screening | | | |
| C7) Heijne et al. American Journal of Preventitive Medicine, 2010;39(3):243-50 | Analysis of claims data for women aged 15-25 years enrolled in 130 commercial health plans using MarketScan databases. | 2002-2006 | Among women enrolled for the entire 5-year study period, 26% had at least one chlamydia test but only 0.1% had a chlamydia test every year. |
| C8) Christiansen-Lindquist, et al. Sexually Transmitted Diseases, 2009;36(10):642-6. | Analysis of Medicaid child claims from MarketScan database to estimate chlamydia screening rates for sexually active women ages 15-21 years. | 2002-2005 | Study population ranged from 90,900 women in 2002 to 173,400 women in 2005. Chlamydia screening rates increased overall from 34% in 2002 to 45% in 2005. Black women had higher screening rate than white women for all years (51% vs. 39% in 2005). Women between ages of 19-21 more likely to receive screening than women aged 15-16 (47% vs. 36% in 2005). |
| C9) Hoover et al. Obstetrics & Gynecology, 2008;112(4):891-8 | Analysis of National Hospital Ambulatory Medical Care Survey data to estimate chlamydia screening and diagnostic testing in hospital outpatient clinics. | 2005 | Non-pregnant women aged 15-25 years were not screened at 84% of asymptomatic preventive visits, and were not tested for chlamydia at 78% of visits where they presented with signs and symptoms of chlamydia. Women aged 26-35 years were not tested at 86% of visits where they presented with signs or symptoms of chlamydia. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| C. Screening | | | |
| C10) Pearson et al. Journal of AIDS, 2015; ePub ahead of print | Analysis of claims data of commercially-insured persons using Marketscan database to compute rates of testing for chlamydia, gonorrhea, and syphilis among HIV-positive persons. | 2011-2012 | Of the 65,328 HIV patients aged 18-64 years, testing rates over a 13-month period were: chlamydia - 22%; gonorrhea - 22%, and syphilis - 51%. Persons receiving viral load testing were more likely to receive testing compared to persons not receiving viral load testing. |
| C11) Meyerson et al. Am J Public Health, 2015;105:91-5 | Survey of medical directors of community health centers (CHCs) in Indiana. Completed surveys were returned by 28 CHCs (70% response rate). Among these CHCs, 29% had a FQHC designation, and 32% had a Rural Health Center designation. | 2013 | 86% of CHCs reported HIV testing, primarily at patient request or if the patient was symptomatic. Routine HIV testing was provided for pregnant women by 61% of CHCs. Only 11% provided routine testing for adolescents to adults up to age 65 years. Routine testing was reported by 14% for gay and bisexual men, although 46% of CHCs reported asking patients about sexual orientation. Linkage to care services for HIV-positive patients, counseling for HIV treatment adherence, and partner testing generally was not provided. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| C. Screening | | | |
| C12) Johnson et al. AIDS Patient Care and STDs, 2011;25(11):647-55 | Interview of one senior personnel from each of 30 community health centers (CHCs) in Massachusetts to assess implementation of routine HIV testing. Since 2006, CDC guidelines recommend routine, voluntary HIV testing as an opt-out procedure for persons aged 13-64 in all healthcare settings (including primary care practices and community clinics). The CDC further recommended the elimination of separate informed consent for HIV testing, which remains legally mandated in 5 states including Massachusetts. | 2008 | All CHCs provided HIV testing, but only 53% implemented routine HIV testing (i.e., performed HIV testing for all patients unless the patient specifically declined it). Routine testing was most commonly reported as a component of prenatal screening or for those determined to be at increased risk. Perceived barriers to implementing routine HIV testing were: limited time; resource constraints; provider, patient, and community discomfort; inconsistent levels of awareness regarding CDC recommendations; and concerns regarding incompatibility with Massachusetts HIV testing policy. |
| C13) Cropsey et al. J Natl Med Assoc, 2012;104:487-92 | Mailed survey of 431 adult correctional agencies (67% response rate). | 2004-2005 | The percentage of facilities that provided HIV/AIDS testing were: prisons - 89%; jails - 73%; and community corrections - 42%. The percentage that provided hepatitis C screening were: prisons - 98%; jails - 74%; community corrections - 39%. The percentage that provided STI testing were: prisons - 47%; jails - 17%; community corrections - 1%. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| D. Testing | | | |
| D1) Meites et al. Sexually Transmitted Diseases, 2013;40(11):865-9 | Laboratory test data for T. vaginalis for all women visiting 15 publicly funded STD clinics participating in the STD Surveillance Network. The clinics were located in 6 states: AL, CA, CO, NY, PA, and WA. | 2010-2011 | Wet mount was the laboratory method used almost exclusively at all STD clinics (99.3% of all T. vaginalis tests). Culture was rarely used (3.8%). No clinic reported using rapid antigen testing or NAAT testing for T. vaginalis. At STD clinics in some states, clinicians both collect and interpret wet mounts, whereas in others, microscopy is performed only by lab personnel. Cultures for T. vaginalis performed at some clinics during 2010 were for a research project and did not reflect usual clinic practice. |
| D2) Eubanks et al. Sexually Transmitted Diseases, 1999;26(9):537-42 | Surveys of clinics and review of medical records to assess the quality of care provided by 4 not-for-profit clinic systems with 10 primary care sites that contracted with the Tacoma-Pierce County Health Department, WA, to provide STD care after closure of the county's categorical STD clinic. | 1996-1997 | Only 1 of the 10 clinics performed Gram stain on-site. Difficulty obtaining CLIA certification was the stated reason for not offering Gram stain. All clinics dispensed treatment for chlamydia and gonorrhea on-site. 9 clinics relied exclusively on the health department to carry out sex partner notification. Among clients who had an STD visit, 73% and 72% were tested for chlamydia and gonorrhea, respectively. Wet mount microscopy was charted for 35% of women. RPR was done for 13%, and HIV serology for 25%. Significant deviations from CDC STD Treatment Guidelines were documented in the management of PID. |
| D3) Garrett et al. Sexually Transmitted Diseases, 2015;42(8):413-6 | Survey of 33 laboratories in DC that reported gonorrhea results to the Department of Health. 19 (58%) labs completed the survey, representing 92% of the gonorrhea reporting. | 2012-2013 | 89% (17/19) of labs conducted gonorrhea testing by culture; only 35% (6/19) performed antibiotic susceptibility testing (AST); 79% performed NAAT. Barriers to AST included longer completion times and limited number of provider requests. Overall, AST was performed on 9% of gonorrhea tests reported to the DOH. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| D. Testing | | | |
| D4) Dicker et al. Sexually Transmitted Diseases, 2007;34(1):41-6 | Survey of 144 public health labs that were members of the Association of Public Health Laboratories. 114 labs responded (79% response rate. Of the responding labs that represented 49 states, 54% were state labs, 36% were county labs, and 11% were city labs. In addition, the national account managers from the 4 test manufacturers that supply the majority of CT and GC test kits to US labs were asked to provide the total number of test kits sold in 2004. | 2004 | 108 labs performed chlamydia testing in 2004; 87% performed NAAT for chlamydia, and 48% performed at least one non-NAAT test. 108 labs performed gonorrhea testing; 79% performed NAAT for gonorrhea, and 85% performed at least one non-NAAT test. Although 78% performed gonorrhea culture, culture represented only 9% of all gonorrhea tests done in public health labs. 107 labs performed syphilis testing; 91% performed at least one non-treponemal test (63% did RPR and 44% did VDRL tests). 75% performed treponemal tests, and 27% performed direct detection (17% did darkfield and 11% did DFA-TP). 47% performed HSV testing; 44% performed culture and 16% used direct detection methods. 15% performed HSV serological tests, but only 6% performed type-specific HSV serological tests. Only 4 labs performed tests for trichomoniasis; 2 labs used the Affirm VP test, one the In-Pouch TV, and one Diamond's media culture. 21 labs used Gram stain to test for BV; 2 of these labs also used the Affirm VP test. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| D. Testing | | | |
| D5) Ahrens et al. Sexually Transmitted Diseases, 2007;34(7):513-8 | Survey mailed annually to licensed clinical labs in California that performed STD testing from 1996 to 2003. Response rates ranged from 77% to 99% per year. | 1996-2003 | From 1996 to 2003, the number of labs that conducted STD testing decreased 31% from 734 to 508, whereas the total number of CT, GC, and syphilis tests increased from 8.1 million to 9.3 million annually. In 2003, nonpublic health labs conducted 93% of all STD tests. CT and GC tests performed using NAAT testing increased from 5% to 66% and from 1% to 59%, respectively. GC culture testing decreased from 42% to 10% of all GC tests. From 1996 to 2003, the proportion of labs reporting GC culture testing decreased from 70% to 59%. Over half (59%) of labs that performed GC culture reported beta-lactamase testing in 2003. Nontreponemal tests comprised 82% to 92% of total syphilis tests each year, with no apparent trend. For HSV, direct antigen and culture testing both decreased between 1997 and 2003 (62% to 32% and 12% to 4%, respectively), and serological testing increased from 35% of tests in 1996 to 64% of tests in 2003. 46% of HSV serological tests in 2003 were type-specific (removing an anomalous lab raised the type-specific test proportion to 82%). |
| D6) Lee et al. Sexually Transmitted Diseases, 2010;37(1):44-8 | Survey of all 38 US Army regional and community labs. Response rate was 92% (35/38). Among the 35 returned surveys, 29 were from a US installation; and 6 were from labs outside the continental US, including 4 from Europe and 2 from Asia. | 2007 | 79% of chlamydia and 77% of gonorrhea specimens were tested by NAAT tests. Culture and Gram stain were used for 6% and 2% of gonorrhea specimens, respectively. Of the 17 labs (49%) that used culture as a method of gonorrhea testing, 10 performed antimicrobial susceptibility testing; 9 reported using the beta-lactamase test, 2 reported using the disk diffusion test, and 1 reported using the E-test. Only 3 labs used rapid point-of-care tests to diagnose trichomonas and/or vaginosis cases; 2 labs used the Affirm VPIII, and 1 lab did not report the type of point-of-care test used. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| D. Testing | | | |
| D7) Hoover et al. Clinical Infectious Diseases, 2013;56(1):51-7 | Chlamydia testing data from a large US laboratory (LabCorp). | 2008-2010 | Of the 0.4 million tests in men and 2.9 million tests in women (one-third were for diagnostic and two-thirds were for screening purposes), the percent positive were 7% and 4%, respectively. Among men, test types were: NAAT - 89%, DNA probe - 11%; Culture - 1%. Among women, test types were: NAAT - 76%; DNA probe - 24%; Culture - 0.2%. Retesting rates of persons with a positive chlamydia test were: Men - 22% (median days: 45); Nonpregnant women - 38% (median days: 42); Pregnant women - 60% (median days: 42). Repeat tests were positive in 16% of men, 14% of nonpregnant women, and 15% of pregnant women. |
| D8) Owusu-Edusei et al. Sexually Transmitted Diseases, 2013;40(5):354-61 | Outpatient claims for privately insured persons aged 15 to 24 years using the MarketScan Database. The database includes claims on more than 34 million insured persons from more than 100 payers. | 2008 | The claims rate for HPV was higher than for any other STI (18,085/100,000 enrollees), whereas that for trichomonas was lower than all other STIs (517/100,000). The claim rate for the other STIs were: chlamydia, 8,955/100,000; gonorrhea, 8,262/100,000; syphilis, 3,781; HSV2, 1,062/100,000; HIV, 3,779/100,000; HBV, 2,814/100,000). Average costs ranged from $24 to $43. |
| D9) Asch et al., Public Health Reports, 2002;117:157-63 | Retrospective chart review assessing quality of care STD patients received in six Los Angeles County clinics (four general medical clinics and two specialized STD clinics). | 1995-1996 | For patients with STDs, STD clinics achieved greater compliance than general medical clinics on 14 quality indicators (1 on patient information collection, 6 on history taking, 2 on physical exam, 4 on lab test ordering, and 1 on patient follow-up), while general medical clinics achieved greater compliance on 4 indicators (history taking of non-injection drug use, examination of the oropharynx, documentation of lab tests, and offering condoms). There were no differences on the remaining 14 indicators. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| D. Testing | | | |
| D10) Gallagher et al. Pediatrics, 2007;119(4):e991-1001 | National survey of 726 juvenile detention facilities. Response rate was 96%. Average length of stay in these facilities was 37 days. | 2004 | The proportion of juvenile detention centers that tested all young persons after arrival were: Tuberculosis - 42%; STD - 19%; HIV - 4%; and Hepatitis C - 4%. Of facilities that housed girls, 18% routinely tested for pregnancy. |
| D11) Hammett et al, 2007. www.ncjrs.gov/pdffiles1/nij/grants/217736.pdf | 10th National Survey of Infectious Diseases in Correctional Facilities. Response rates were: Federal Bureau of Prisons - 100% (1/1); State Depts of Corrections - 92% (46/50); 50 largest city/county jail systems - 66% (33/50). | 2005 | Of state/federal prison systems (n=47), proportion with mandatory or routine testing at intake were: HIV - 39%; Syphilis - 76%; Gonorrhea - 17%; and Chlamydia - 20%. Of the city/county prisons (n=33), proportion with mandatory or routine testing were: HIV - 0%; Syphilis - 25%; Gonorrhea - 4%; and Chlamydia - 4%. |
| D12) Parece et al. Sexually Transmitted Diseases, 1999;26(8):431-7 | Survey of 94 counties of all US counties (n=3,086) with high syphilis morbidity (reporting more than 40 primary and secondary syphilis cases in 1996) or large metropolitan areas (population more than 200,000 persons). State and local STD program managers completed the assessment in collaboration with health departments and the main jail facilities in the selected counties. | 1997 | Proportion of jails that provided routine testing were: Syphilis - 47% for women and 46% for men; Gonorrhea - 22% for women and 16% for men; Chlamydia - 20% for women and 12% for men; Pregnancy - 33% for women. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| D. Testing | | | |
| D13) McIntyre et al. Sexually Transmitted Diseases, 2009;36(2):S37-40 | Survey of each of the 91 adult county jails in Illinois. Response rate was 89% (81/91). | | 49% of jails provide on-site testing for STD/hepatitis (43% for CT/GC/syphilis, 40% for hep A/B/C) and 54% for HIV. Of the facilities that do not provide on-site testing, two-third reported that detainees are transported elsewhere for services. Routine screening at intake were: STD/hepatitis - 5%; HIV/AIDS - 2%. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| E. Treatment | | | |
| E1) Chen et al. Sexually Transmitted Diseases, 2009;36(7):445-51 | Review of all newly diagnosed syphilis cases among Maricopa County residents aged ≥13 years that were reported to the Arizona STD Control Program during June 1, 2006 to May 31, 2007. | 2006-2007 | Of the 638 reported cases of syphilis, 8% were primary, 14% were secondary, 21% were early latent, 42% were late latent, and 15% were unknown latent. As of January 2008, 94% had been treated. Median time to treatment was shorter for STD clinic patients versus non-STD clinic patients (0 vs 7 days for primary; 0 vs 6 days for secondary; and 3 vs 12 days for all other syphilis infections). Treatment at the initial visit occurred more frequently for STD clinic patients versus a non-STD clinic (57% vs 8%). The median time-to-partner elicitation interview by communicable disease investigators was shorter for STD clinic patients than for non-STD clinic patients (0 vs 20 days). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| E. Treatment | | | |
| E2) Schwebke et al. Sexually Transmitted Diseases, 1997;24(4):181-4 | Retrospective chart review of computerized medical records of patients attending a STD clinic in Alabama. | 1994-1995 | Of 4791 patients with positive gonorrhea screening cultures, 12% did not receive therapy at the time of evaluation. Of 1539 patients with positive chlamydia screening cultures, 47% did not receive presumptive treatment at their initial visit. Overall, 20% of patients with positive cultures failed to return to the clinic for treatment within 30 days of screening. Of those who did return, 30% did so only after at least 2 weeks had elapsed. |
| E3) Anschuetz et al. Sexually Transmitted Diseases, 2014;41(1):64-6 | The Philadelphia Dept of Public Health (PDPH) issued a Health Alert to providers on June 18, 2012 that stressed the preferred treatment for GC as injectable ceftriaxone plus either azithromycin or doxycycline orally after CDC treatment guidelines changes in August 2012. The alert also informed providers that they would be contacted by PDPH for treatment verification regarding their GC cases. | 2012 | From July to December 2012, 3551 GC cases were reported to PDPH. Treatment was documented for 3279 (92%) cases. Of the 3279 treated patients, 87% received first-line recommended therapy for GC, 5% received an acceptable alternative regimen of either dual therapy with cefixime plus either azithromycin or doxycycline or 2g azithromycin, and 8% received a regimen not currently in the treatment guidelines (i.e., ceftriaxone/cefixime only). Of the 638 GC cases reported by private doctors/clinics, use of first-line therapy was more likely if a provider/clinic diagnosed 3 or more cases in the last 6 months than those who diagnosed 2 or less cases (79% vs 53%). Use of cefixime was reported most often in facilities where use of injectable medications is problematic (50% among high schools/juvenile detention facilities vs 5% overall). 44% were treated the same day the specimen was collected. Among those not treated the same day, a median of 8 days lapsed between specimen collection and treatment. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| E. Treatment | | | |
| E4) Kerani et al. Sexually Transmitted Diseases, 2015;42(1):6-12 | STD Surveillance Network (SSuN) data from 6 city and state health departments that were enhanced through interviews from a random sample of gonorrhea patients were used to assess gonorrhea treatment practices following revisions of CDC guidelines in December 2010 to use ceftriaxone as the primary regimen to treat gonorrhea. | 2010-2012 | Among gonorrhea patients with complete treatment data, 77% received ceftriaxone, 16% received an oral cephalosporin, and 7% did not receive a cephalosporin; 52% of patients were treated with a regimen containing ceftriaxone and either doxycycline or azithromycin. Ceftriaxone treatment increased by year: 64% in 2010, 79% in 2011, and 85% in 2012. Among cases reported in 2012, ceftriaxone therapy was higher in STD clinic, family planning, and public clinics (91-95%) than in private provider and hospital/emergency department (77-81%). |
| E5) Tabidze et al. Sexually Transmitted Diseases, 2015;42(8):422-8 | Data on lab-confirmed gonorrhea cases reported to the Chicago Dept of Public Health (CDPH) to assess adherence to the August 2012 updated CDC treatment guidelines for gonorrhea. Treatment trends before (period 1: April 2011 through July 2012) and after (period 2: August through December 2012) release of the update was assessed. Cases reported by CDPH clinics (93% from STD clinics) and non-CDPH providers (hospitals, CHCs, primary physicians, etc) were evaluated. | 2011-2012 | 58% (9597/16646) of the gonorrhea cases had treatment information. Same-day treatment was reported by 79% of CDPH clinics and 52% of non-CDPH providers. Among non-CDPH facilities, 24% of gonorrhea cases were from facilities reporting less than 10 cases over the study period. Recommended treatment increased for CDPH (period 1: 71%, period 2: 81%) and non-CDPH providers (period 1: 64%, period 2: 69%). Among CDPH cases, factors associated with recommended treatment were male sex, black race, same-day treatment, and period 2. Among non-CDPH cases, significant factors were male sex, same-day treatment, 10 or more reported cases, and <50% of cases with missing treatment data at originating test facility. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
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| E. Treatment | | | |
| E6) Dowell et al. American Journal of Public Health, 2012;102(1):148-55 | STD surveillance data from five SSuN sites (Denver, Minneapolis, Richmond, Baltimore, Hartford/New Haven) were analyzed using ARIMA interrupted time series to determine the effect of revised CDC guidelines that no longer recommended fluoroquinolones for treating gonorrhea that were published in April, 2007. | July 2006-May 2008 | Gonorrhea cases treated with fluoroquinolones decreased 22% by 2 weeks after revised guidelines were released. The decrease was higher in STD clinics (29%) compared to that in primary care (9%) and in emergency departments, urgent care, and hospitals (3%). |
| E7) Lechtenberg, Sexually Transmitted Diseases, 2014;41(5):338-44 | Random sample of gonorrhea cases from the California Gonorrhea Surveillance System. Adherence to CDC STD Treatment Guidelines released in August 2006, or those released on 17th December 2010 for cases treated after 17th February 2011, was assessed. | 2009-2011 | The proportion of patients receiving non-recommended treatment were: private physician/HMO - 18%; ED/urgent care - 23%; correctional facility - 21%; hospital - 21%; military/VA - 38%; family planning facility - 16%; community/public health clinic - 12%; STD clinic - 5%. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| E. Treatment | | | |
| E8) Haderxhanaj et al. Sexually Transmitted Diseases, 2014;41(1):67-73. | National Survey of Family Growth, a nationally representative, cross-sectional, in-person, household survey of noninstitutionalized persons aged 15 to 44 years. | 2006-2010 | Among women, 16% reported receipt of STD services in the 12 months before interview (i.e., received counseling for or were tested or treated for an STD). Place where STD service was received were: Private doctor/HMO - 56%; Community health clinic, community clinic, public health clinic - 20%; Family planning or Planned Parenthood - 10%; Nonprimary care (including school-based clinic, hospital outpatient clinic, hospital emergency department) - 13%. |
| E9) Davis et al. Sexually Transmitted Diseases, 2009;36(3):185-90 | Telephone survey of 57 counties in Upstate New York (i.e., excluding 5 counties within NY City). 55 (96%) counties participated. | 2007 | 32 (56%) county health departments operated free STD clinics, 29% contracted with a local health center (e.g., CHC), and 15% referred to other counties or independent physicians where STD care compensated by the county health departments could be obtained. Medication provided free of charge by the county were: syphilis - 91%; gonorrhea - 92%; chlamydia - 89%; trichomoniasis - 69%; bacterial vaginosis - 55%; candida - 53%. If medication was not free for all meds, a prescription was provided by 66%. 19 (35%) respondents reported that staff located within their county health dept conducted partner notification, whereas 36 (65%) counties (primarily rural) referred cases to the State's regionally based DIS for follow-up. |
| E10) Schechter-Perkins et al. Sexually Transmitted Diseases, 2015;42(7):353-7 | Chart review on 500 patients randomly selected from those who had positive NG or CT test results performed in an urban, academic Emergency Department. | 2010-2011 | Mean age was 25 years, 51% were female, and 73% were African Americans. 54% of patients were treated in the ED at initial visit with appropriate antibiotics for the STI for which they eventually tested positive. An additional 31% were successfully contacted by the callback nurse and were treated at the recommended follow-up visit at the medical center. 15% did not have documented treatment. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| E. Treatment | | | |
| E11) Yealy et al. Academic Emergency Medicine, 1997;4(10):962-7 | Retrospective examination of records of all women with culture-proven cervical GC or CT in a university-affiliated, tertiary care hospital-based emergency department with a large rural referral area located in a small urban city in central Texas. | 1992-1994 | Of 157 patients with positive cultures for NG or CT, 53% were treated prior to ED release. Women with findings suggestive of PID were more often treated with antibiotics initially. After phone, mail, and public health follow-up, treatment could not be documented for 25% of the patients, in all cases due to inability to locate the patients. An additional 20% of the women did not receive treatment for 14-60 days. |
| E12) Shih et al. Sexually Transmitted Diseases, 2011;38(4):299-305 | The ED component of the National Hospital Ambulatory Medical Care Survey database from 1999 to 2006 was analyzed to assess adherence to CDC treatment guidelines for Pelvic Inflammatory Disease (PID). | 1999-2006 | ED provider adherence to CDC treatment guidelines for PID was 31%. Doxycycline was the most commonly missing medication from the recommended regimens while azithromycin was the most prescribed antibiotic that was not recommended until 2006 CDC guidelines. In multivariate analysis, those without specialty consultation during ED visits and those before the announcement of 2002 guidelines were significantly less likely to receive CDC-recommended antibiotic regimens versus their counterparts. |
| E13) Bachmann et al. Sexually Transmitted Diseases, 1999;26(9):496-9 | Chart review for all patients at a major university medical center in Alabama with positive laboratory tests for C. trachomatis during calendar year 1996. | 1996 | Of 326 patients with positive CT tests, 95% were female and 84% were black. Most positive CT test results were from the ER/walk-in clinic (55%) or patients receiving OB/Gyn care (31%). 57% of ER/walk-in patients received empiric antibiotics at the initial visit versus 36% of patients under OB/Gyn care. Among patients with positive tests seen in the ER/walk-in clinic, 32% had no treatment documented versus 14% of OB/Gyn patients. 4% of women developed PID in the interval between testing and return to the medical center. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| E. Treatment | | | |
| E14) Blumenthal et al. AIDS Behav, 2015;19:802-10 | iPad-based questionnaires were given to 233 HIV and non-HIV providers at conferences in California and New York to assess knowledge, experience and attitudes regarding PrEP. | | 59% of respondents were physicians and 52% were HIV providers. Mean PrEP knowledge scores were significantly higher for HIV providers, White race, and participants in the NY region. The rate of prior PrEP prescription was higher among HIV providers than non-HIV providers (34 vs 9%) and by knowledge score, but the association with provider status was no longer significant in multivariable analysis that controlled for knowledge. Intent to prescribe PrEP in the future was high for all provider types (64%) and was associated with knowledge scores in multivariable analysis. The most common concerns about PrEP (>40% of providers) were drug toxicities, development of resistance, and patient adherence to follow-up. |
| E15) Karris et al. CID 2014;58:704-12 | Adult infectious disease physicians surveyed about PrEP through the Emerging Infections Network, a provider-based network of infectious disease physicians actively involved in clinical practice who belong to IDSA. Response rate was 49% (573/1175). | Jun-13 | Only 9% had actually provided PrEP, 43% had not provided PrEP but would, 34% believed PrEP was not relevant to their practice, and 14% would not provide PrEP. Among the subset of physicians who would not provide PrEP, reasons included: concern about compliance and future resistance - 77%; cost/payer issues - 57%; concerns about potentially toxic drugs in healthy persons - 53%; and insufficient evidence for efficacy of real-world PrEP - 54%. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| E. Treatment | | | |
| E16) Hogben et al. International Journal of STD & AIDS, 2007;18:318-20 | Survey of Atlanta-area practicing physicians. 416 physicians responded (response rate: 34%). | | 85% of physicians reported that they treated STD, and 10% referred cases elsewhere. Of all physicians, 51% had a copy of the 2002 CDC STD Treatment Guidelines, 27% knew how to access the guidelines, 17% would like a copy, and 5% neither had or wanted a copy. OB-Gyns were most likely to have copies or know how to access copies (97%); proportions for the other specialties were 65% (pediatricians), 73% (internists) and 83% (general and family practitioners). Of the 209 physicians who had a copy of the guidelines, 50% accessed them via the internet, 29% received copies through the mail, and colleagues/work/other accounted for the remainder. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| F1) Introcaso et al. Sexually Transmitted Diseases, 2013;40(11):881-5 | Survey of medical directors at all NYC FQHC parent entities and clinicians at a sample of their clinical sites. 76% (22/29) of entities and 70% (51/72) of sites responded to the survey. As of 2009, NY State law allows patient- | 2012 | 80% (41/51) of sites provide PDPT for chlamydia. Among the sites that provide PDPT, PDPT is provided only by prescription by 58% (24/41) of sites, by both dispensed medication and prescription by 34% (14/41) of sites, and only by dispensed medication by 7% (3/41) of sites. 32% (13/41) of sites do not provide educational materials with PDPT. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| | delivered partner therapy (PDPT) for chlamydia. | | |
| F2) Navale et al. Sexually Transmitted Diseases, 2014;41(11):684-9 | Online survey of Chief Medical Directors of Indiana Community Health Centers. Completed surveys were returned by 70% of CHCs (28/40). 29% were FQHCs and 32% were RHCs. | 2013 | For patients testing positive for syphilis or gonorrhea/chlamydia, services for partners were provided by 68% of CHCs whereas partner referral to the health department for counseling was provided by 14-21%. On-site partner counseling (telling partners about need for risk reduction, testing and treatment if necessary) was provided by 36-43%. 61% told gonorrhea/chlamydia patients to refer their partner for testing and treatment, and 18% gave patients medication to distribute to their partners "all the time." 44% of CHCs treated syphilis patients presumptively "often" and "all the time", and 17% referred the patient to the health department. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| F3) Jotblad et al. Sexually Transmitted Diseases, 2012;39(2):122-7 | Internet-based survey of a convenience sample of 286 family planning providers in California. The evaluation period coincided with the implementation of a free patient-delivered partner therapy (PDPT) medication distribution program by the California Family Health Council, where prepackaged medication for partner treatment for chlamydia was distributed to Title X agencies throughout the state. PDPT for chlamydia is legally permissible in California since 2001 and for gonorrhea since 2007. | 2007 | 73% of respondents reported routinely providing PDPT to clients. Methods of PDPT delivery included: providing medication directly to clients to give to partners (77%); giving clients a prescription in the partner's name (13%); and writing the clients a prescription for a double dose of medication (4%). Predictors of routine PDPT use included affiliation with an agency that received free prepackaged single-dose medication for on-site PDPT dispensing and support of the clinic's medical director. Common concerns about PDPT included missed counseling opportunities (51%) and incomplete care for partners (42%). 41% identified lack of reimbursement for PDPT by either public or private insurance programs as an important barrier to routine use. |
| F4) Hogben et al. Sexually Transmitted Diseases, 2005;32(2):101-5 | Random sample of 7,300 primary care (OB/Gyn, internal medicine, family/general practice, pediatrics) and emergency medicine physicians drawn from the AMA Master List. Response rate was 70% (n = 4,223). | 1999-2000 | Among 3011 physicians who diagnosed at least 1 case of either gonorrhea or chlamydia in the preceding year, 50-56% reported ever using patient-delivered partner therapy (PDPT); 11-14% reported usually or always doing so. OB/Gyns and family practice physicians more often used PDPT. Clinicians who collected sex partner information, as well as those who saw more female and white patients, used PDPT more often. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| F5) Hogben et al. Sexually Transmitted Infections, 2004;80:30-34 | Random sample of 7,300 primary care (OB/Gyn, internal medicine, family/general practice, pediatrics) and emergency medicine physicians drawn from the AMA Master List. Response rate was 70% (n = 4,223). | 1999-2000 | Depending on the STD, 39-50% of physicians always reported patient names to health departments (case reporting). Most (81-84%) always asked their patients to notify their partners to get evaluated and treated. However, only 4% of physicians always practiced provider referral (i.e., a professional, usually a disease intervention specialist, interviews the infected person to elicit names of sex partners and then directly notifies those partners to get evaluated and treated). Physicians were much more likely to feel that provider referral would be overly time consuming for both themselves and their staff. |
| F6) Golden et al. Sexually Transmitted Diseases, 1999;26(9):543-7 | Telephone interviews of private sector clinicians and patients identified through public health chlamydia case reports in Seattle-King County. | 1998 | Clinicians reported advising 90% (135/150) of chlamydia patients to notify their sex partners, but in 74% of cases (111/150) clinicians did not know the outcome of partner notification (clinicians knew that all partners of only 17% of patients received treatment). While 57% of clinicians acknowledged ever providing medicine to a patient to give to a partner, only 4% so treated a patient about whom they were interviewed. 95% of patients reported that their provider had advised them to notify their partners. 78% of patients stated that they notified all of their partners, although only 55% knew that all of their partners had been treated. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| F7) Rogers et al. Sexually Transmitted Diseases, 2007;34(2):88-92 | Random survey of clinicians in NY City. 695 clinicians responded (response rate: 42%). Analysis was limited to 410 clinicians who reported having diagnosed a case of chlamydia or gonorrhea during the previous year. NY State law and regulations precluded prescription of medication to any individual not under the prescribing physician's care. | 2004-2005 | 94% of clinicians reported frequent use of patient referral (i.e., instruct patients to tell sex partners about possible exposure to infection and the need for evaluation); only 20% reported frequent use of provider referral (i.e., clinicians or their designees contact patients' sex partners directly). 49% reported ever using patient delivered partner treatment (PDPT) for chlamydia or gonorrhea (27% reported using PDPT always or usually, 22% sometimes, and 51% never). Clinicians who practiced in emergency department/urgent care settings were much less likely (13%) to have ever used PDPT. |
| F8) Niccolai et al. Am J Prev Med, 2005;28(2):229-33 | Random sample of family and general practitioners, internists, emergency medicine physicians, and OB/Gyns in Connecticut and Rhode Island were mailed surveys (response rate was 53%). Neither CT nor RI has specific legislation pertaining to patient-delivered partner therapy (PDPT). | 2003 | 50% (55/111) of respondents reported having ever used PDPT, although only 6% reported using it frequently. Perceived barriers included difficulty ensuring delivery of medication to the partner (96%), concern about adverse reactions (88%), liability (75%), and missed opportunities for other clinical services (68%). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| F9) Packel et al. Sexually Transmitted Diseases, 2006;33(7):458-63 | Survey of a random sample of primary care physicians and all primary care nurse practitioner members of the California Coalition of Nurse Practitioners in California. Eligibility criteria included providing primary health care to sexually active patients under the age of 30 in the past 3 months. 708 physicians (response rate: 49%) and 895 nurse practitioners (response rate: 63%) completed the survey. | 2001-2002 | 96% of physicians and 98% of nurse practitioners reported routinely telling patients to inform their partners of chlamydia infection. 47% of physicians and 48% of nurse practitioners reported that they use PDPT for chlamydia usually or always. OB/Gyn (60%) and family practice (52%) physicians were more likely than internal medicine (37%) physicians to report routine use of PDPT. [California passed a law in 2001 allowing PDPT for chlamydia. PDPT medication cannot be billed through Medicaid unless the partner is enrolled; however, several managed care organizations in California pay for PDPT medications]. |
| F10) Stenger et al. Sexually Transmitted Diseases, 2015;42(9):470-4 | Case and patient interview data for a random sample of reported gonorrhea cases from 7 jurisdictions participating in the STD Surveillance Network. | 2010-2012 | 5.4% of eligible gonorrhea patients received PDPT to treat their sex partners. Heterosexual patients were more likely to receive PDPT than MSMs (6.6% vs 2.6%). Heterosexual patients from family planning/reproductive health (14%) and STD clinic (6%) settings were more likely to receive PDPT than those from hospital/ED (4%) and private provider (5%) settings. Heterosexual patients in Washington State were most likely (35%) and those in NY City, Connecticut, and Philadelphia least likely to receive PDPT (<2%). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| F. Partner Notification/Management | | | |
| F11) Cramer et al. Sexually Transmitted Diseases, 2013;40(8):657-62 | Data on interviewed gonorrhea cases from 12 sites in the STD Surveillance Network in 2010 (n=3,404, reflecting response rate of 39%) that included patients' reported receipt of PDPT to assess association with laws and policies. | 2010 | Where PDPT state laws for gonorrhea existed and PDPT was permissible, 13.3% of eligible patients reported receiving PDPT as compared with 5.4% where there were no PDPT laws and PDPT was permissible, and 1% where there were no PDPT laws and PDPT was potentially allowable. Among states that do not have a law authorizing PDPT for gonorrhea, PDPT was higher where state medical board or other nonmedical board had policy statements supporting PDPT. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| G. Vaccination | | | |
| G1) Meites et al. Sexually Transmitted Diseases, 2012;39(1):32-4 | Survey of all 42 public STD clinics participating in the CDC STD Surveillance Network. Response rate was 100%. | 2011 | 95% of STD clinics offered hepatitis B vaccine, 88% offered hepatitis A vaccine, and 17% offered HPV vaccine. The main source of funding for HPV vaccine was the federal Vaccines for Children program or Section 317 vaccine purchase funding. Among the 35 clinics not offering HPV vaccine, barriers included cost for 20 clinics (57%), staff time for 18 clinics (51%), and follow-up issues in order to deliver the full 3-dose series for 15 clinics (43%). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| G. Vaccination | | | |
| G2) Gilbert et al. Sexually Transmitted Diseases, 2005;32(6):346-50 | Survey of 64 state, municipal, and territorial STD program managers; 71 previously surveyed STD clinic managers; and a national sample of 500 STD clinics (including both federally funded STD clinics and nonfederally funded providers). Response rate was 70% to 80% across these groups. | 2001 | 82% of STD clinic managers reported offering hepatitis B vaccine. Among clinics enrolled in the federal Vaccines for Children (VFC) Program, 95% offered hepatitis B vaccine, compared with only 60% of the non-VFC sites. 84% of clinics used state/federal funds (including VFC) to acquire vaccine; 23% used Medicaid; and 46% used client self-pay. The top three barriers to implementing hepatitis B vaccination programs in the STD clinics were: lack of funding; lack of resources to track patients; and client noncompliance with vaccine series completion. |
| G3) Hoover et al. Sexually Transmitted Diseases, 2012;39(5):349-53 | Random sample of HIV-infected MSM in 8 HIV clinics in 6 cities. Medical records were abstracted for all visits made by the patients during 2004-2007, with a goal of 200 patients per clinic. Of the 8 clinics, 7 were Ryan White grantees. | 2004-2007 | Screening rates for hepatitis A, B, and C were 47%, 52%, and 54%, respectively. Among patients who were screened and found to be susceptible, 29% were vaccinated for hepatitis A and 25% for hepatitis B. The percentage of patients screened and vaccinated varied significantly by clinic. |
| G4) Hurley et al. Annals of Internal Medicine, 2014;160:161-70 | Survey of a network of general internists and family physicans; response rates were 79% (352/443) and 62% (255/409), respectively. | 2012 | Compared to general internists, family physicians were more likely to stock HPV (75% vs 52%), hepatitis B (75% vs 66%), and hepatitis A (64% vs 62%) vaccines. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| G. Vaccination | | | |
| G5) Vadaparampil et al. Cancer, 2013;119:621-8 | Random sample of 800 primary care providers (pediatrics, OB/Gyn, family medicine, internal medicine, general practice, or preventive medicine) from the Florida Medicaid Master Provider File (68% response rate). Medicaid claims data were used to calculate HPV vaccination rates (at least 1 dose). | 2009-2010 | The mean HPV vaccination rate was 20%. Vaccination rates were higher among providers who were pediatricians, had a private practice, practiced in a single specialty setting, were providers under the Vaccines for Children program, saw primarily patients who were not non-Hispanic white, used 2 or more strategies for vaccine series completion, and did not refer out for HPV vaccination. |
| G6) Gottlieb et al. J Adolescent Health, 2009;45:438-44 | Telephone survey of staff at all medical practices providing outpatient care to 9- to 26-year-old females in 4 North Carolina counties with elevated cervical cancer rates. Response rate was 74% (71/96). | 2007 | 1 year after its introduction, HPV vaccine was available at three-quarters of family practice and pediatrics practices, two-thirds of OB/Gyn practices, and 15% of internal medicine practices. Practice characteristics associated with a lower likelihood of carrying HPV vaccine were having at least 50% black patient population (OR: 0.19) and providing only privately purchased (and no state-supplied) vaccines (OR: 0.19). HPV vaccine nonproviders were more likely than HPV vaccine providers to report large concerns about the up-front costs of purchasing HPV vaccine (52% vs 27%) and late reimbursement (33% vs 15%). |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| H. Miscellaneous | | | |
| H1) Weston et al. Sex Trans Infect, 2009;85(6):459-67 | Systematic review to identify studies measuring patient satisfaction in an STI clinic setting. The populations included were patients seeking care from any clinical setting offering dedicated STI testing. Only healthcare services free at the point of delivery were included in the review. | Literature searches performed in 2008 | 18 questionnaire-based studies, 9 semistructured interviews and 4 other studies, including 3 focus groups, were identified. Almost all studies were from the UK (2 were from the US). Themes reported to be of greatest importance were the convenience of clinic location, availability of appointments, staff attitude to patients, effective provision of information and maintenance of confidentiality. |
| H2) Ferreira et al. Cochrane Database of Systematic Reviews, 2013;10 | Systematic review of RCTs or quasi-RCTs to assess the effects of different partner notification strategies. The strategies included: patient referral (patient notifies partners with or without additional verbal or written support); PDPT; provider referral (health service personnel notify the partners); and contract referral (patient encouraged to notify partner, with the understanding that the partners will be contacted if they do not visit the health center by a certain date). | Literature search conducted in 2012 | 26 trials were identified (5 trials were conducted in developing countries). Patient delivered partner therapy (PDPT) is better than simple patient referral for preventing reinfection of index patients when combining trials of STIs that caused urethritis or cervicitis. PDPT was not superior to enhanced patient referral in preventing reinfection. There was no consistent evidence for the relative effects of provider, contract or other patient referral methods. |

| Citation | Study Design and Setting | Years of Data Collection | Findings |
|---|---|---|---|
| H. Miscellaneous | | | |
| H3) Taylor et al. Sexually Transmitted Diseases, 2010;37(12):767-70 | To improve partner elicitation interviews, disease intervention specialists (DIS) were placed in 3 HIV clinics in Arizona with the highest number of syphilis cases. DIS were placed in two clinics for half a day per week (treatment visits for syphilis patients were scheduled on the day the DIS was in the clinic) and in 1 clinic on an on-call basis (DIS was notified when there was a newly diagnosed or returning syphilis patient) to deliver penicillin and interview patients. | 2008-2009 | 97% of syphilis cases were men, 90% were MSM, and 84% were HIV-infected. A greater percentage of patients completed a partner elicitation interview during the period of DIS placement (94% after vs 81% before). There were increases in the average number of locatable partners (1.1 after vs 0.6 before) and an increase in the average number of partners exposed and brought to treatment or infected and brought to treatment (0.6 after vs 0.3 before), and the time to interview decreased (9 days after vs 18 days before). |

# Supplementary Appendix 4. Modified Delphi Rating Summary

## Sheet 1. Patients can expect the following STD screening, counseling, and prevention services to be available

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| History and Physical Exam | | | |
| Physical exam, including external genital examination, for patients with STD-related symptoms | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available:<br>• Physical examination<br>• Pelvic examination<br><br>For providers delivering **specialized STD care**, the following services should be available:<br>• Physical examination<br>• Pelvic examination |
| Pelvic examination | Appropriate | Appropriate | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Screening | | | |
| Chlamydia screening | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available:<br>• Chlamydia screening<br>• Gonorrhea screening<br>• Syphilis screening<br>• HIV screening<br>• Hepatitis B screening<br>• Hepatitis C screening |
| Gonorrhea screening | Appropriate | Appropriate | |
| Syphilis screening | Appropriate | Appropriate | |
| HIV screening | Appropriate | Appropriate | |
| Hepatitis B screening | Appropriate | Appropriate | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Screening | | | |
| Hepatitis C screening | Appropriate | Appropriate | For providers delivering **specialized STD care**, the following services should be available:<br>• Chlamydia screening<br>• Gonorrhea screening<br>• Syphilis screening<br>• HIV screening<br>• Hepatitis B screening<br>• Hepatitis C screening |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Behavioral Counseling | | | |
| Brief STI behavioral counseling (single session) | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available:<br>• Brief STI behavioral counseling<br>• HIV prevention counseling<br>• PrEP counseling and risk assessment<br><br>For providers delivering **basic STD care**, the following services may be available:<br>• Moderate-intensity STI behavioral counseling |
| Moderate-intensity STI behavioral counseling<br><br>(> 30 minutes) | Uncertain | Uncertain | |
| High-intensity STI behavioral counseling (≥2 hours) | Inappropriate | Uncertain | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Behavioral Counseling | | | |
| HIV prevention counseling | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services may not be appropriate to have available:<br>• High-intensity STI behavioral counseling<br><br>For providers delivering **specialized STD care**, the following services should be available:<br>• Brief STI behavioral counseling<br>• HIV prevention counseling<br>• PrEP counseling and risk assessment<br><br>For providers delivering **specialized STD care**, the following services may be available:<br>• Moderate-intensity STI behavioral counseling<br>• High-intensity STI behavioral counseling |
| PrEP counseling and risk assessment | Appropriate | Appropriate | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Prevention (on site) | | | |
| Condom provision | Uncertain | Appropriate | For providers delivering **basic STD care**, the following services should be available onsite:<br>• Hepatitis B vaccination<br>• HPV vaccination<br><br>For providers delivering **basic STD care**, the following services may be available onsite:<br>• Condom provision |
| Hepatitis A vaccination | Uncertain | Uncertain | |
| Hepatitis B vaccination | Appropriate | Uncertain | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Prevention (on site) | | | |
| HPV vaccination | Appropriate | Appropriate | • Hepatitis A vaccination<br><br>For providers delivering **specialized STD care**, the following services should be available onsite:<br>• Condom provision<br>• HPV vaccination<br><br>For providers delivering **specialized STD care**, the following services may be available onsite:<br>• Hepatitis A vaccination<br>• Hepatitis B vaccination |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Partner Services | | | |
| Guidance regarding notification and care of sex partners | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available:<br>• Guidance regarding notification and care of sex partners<br>• Interactive counseling for partner notification<br>• Expedited partner therapy<br><br>For providers delivering **specialized STD care**, the following services should be available:<br>• Guidance regarding notification and care of sex partners<br>• Interactive counseling for partner notification<br>• Expedited partner therapy |
| Interactive counseling for partner notification | Appropriate | Appropriate | |
| EPT (where legal) | Appropriate | Appropriate | |

**Sheet 2. Symptomatic patients with STD or related complaints can expect the following services to be available.**

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Evaluation (history and examination) | | | |
| Vaginal discharge syndrome | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available:<br>• Evaluation of<br>o Vaginal discharge syndrome<br>o Male urethritis syndrome<br>o Genital ulcer disease<br>o Pelvic inflammatory disease<br>o Genital warts<br>o Ectoparasitic infections<br>• General services<br>o Phlebotomy<br>o Finger-stick<br>o Genital swab collection<br>o Extra-genital swab collection<br>o Self-collected specimens<br><br>For providers delivering **basic STD care**, the following services may be available:<br>• Evaluation of<br>o Proctitis<br><br>For providers delivering **specialized STD care**, the following services should be available:<br>• Evaluation of<br>o Vaginal discharge syndrome<br>o Male urethritis syndrome<br>o Genital ulcer disease<br>o Pelvic inflammatory disease<br>o Genital warts |
| Male urethritis syndrome | Appropriate | Appropriate | |
| Genital ulcer disease | Appropriate | Appropriate | |
| Pelvic inflammatory disease | Appropriate | Appropriate | |
| Genital warts | Appropriate | Appropriate | |
| Proctitis | Uncertain | Appropriate | |
| Ectoparasitic infections | Appropriate | Appropriate | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Evaluation (history and examination) | | | |
| | | | o Proctitis<br>o Ectoparasitic infections<br>• General services<br>o Phlebotomy<br>o Finger-stick<br>o Genital swab collection<br>o Extra-genital swab collection<br>o Self-collected specimens |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| General services | | | |
| Phlebotomy | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available:<br>• Evaluation of<br>o Vaginal discharge syndrome<br>o Male urethritis syndrome<br>o Genital ulcer disease<br>o Pelvic inflammatory disease<br>o Genital warts<br>o Ectoparasitic infections<br>• General services<br>o Phlebotomy<br>o Finger-stick<br>o Genital swab collection<br>o Extra-genital swab collection |
| Finger-stick | Appropriate | Appropriate | |
| Genital swab collection | Appropriate | Appropriate | |
| Extra-genital swab collection | Appropriate | Appropriate | |
| Self-collected specimens | Appropriate | Appropriate | |

| Service | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| General services | | | |
| | | | o Self-collected specimens<br><br>For providers delivering **basic STD care**, the following services may be available:<br>• Evaluation of<br>o Proctitis<br><br>For providers delivering **specialized STD care**, the following services should be available:<br>• Evaluation of<br>o Vaginal discharge syndrome<br>o Male urethritis syndrome<br>o Genital ulcer disease<br>o Pelvic inflammatory disease<br>o Genital warts<br>o Proctitis<br>o Ectoparasitic infections<br>• General services<br>o Phlebotomy<br>o Finger-stick<br>o Genital swab collection<br>o Extra-genital swab collection<br>o Self-collected specimens |

## Sheet 3. Patients can expect the following diagnostic tests will be available.

| Diagnostic tests | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| On-site point-of-care testing | | | |
| Gram stain, methylene blue, or gentian violet | Inappropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available on site:<br>• pH paper<br>• Urine dipstick<br>• Pregnancy test<br><br>For providers delivering **basic STD care**, the following services may be available on site:<br>• Rapid tests for bacterial vaginosis<br>• Rapid tests for trichomonas<br>• UA with microscopy<br>• Wet mount microscopy<br><br>For providers delivering **basic STD care**, the following services may not be appropriate to have available on site:<br>• Gram stain, methylene blue, or gentian violet<br>• Rapid blood test for syphilis<br>• Dark field microscopy<br><br>For providers delivering **specialized STD care**, the following services should be available on site:<br>• Gram stain, methylene blue, or gentian violet<br>• pH paper<br>• Urine dipstick<br>• Wet mount microscopy<br>• Rapid blood test for syphilis<br>• Pregnancy test |
| Rapid test for bacterial vaginosis | Uncertain | Uncertain | |
| Rapid test for trichomonas | Uncertain | Uncertain | |
| pH paper | Appropriate | Appropriate | |
| Urine dipstick | Appropriate | Appropriate | |
| UA with microscopy | Uncertain | Uncertain | |

| Diagnostic tests | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| On-site point-of-care testing | | | |
| Wet mount microscopy | Uncertain | Appropriate | For providers delivering **specialized STD care**, the following services may be available on site:<br>• Rapid tests for bacterial vaginosis<br>• Rapid tests for trichomonas<br>• UA with microscopy<br>• Dark field microscopy |
| Rapid blood test for syphilis | Inappropriate | Appropriate | |
| Dark field microscopy | Inappropriate | Uncertain | |
| Pregnancy test | Appropriate | Appropriate | |

| Diagnostic tests | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Off-site laboratory testing | | | |
| Urogenital NAATs for gonorrhea and chlamydia | Appropriate | Appropriate | For providers delivering **basic STD care**, the following services should be available through an off-site laboratory:<br>• Urogenital NAATs for gonorrhea and chlamydia<br>• Extragenital site testing for gonorrhea/chlamydia<br>• HIV testing including acute infection<br>• Syphilis serology<br>• HSV viral culture or PCR<br>• HSV serology<br><br>For providers delivering **basic STD care**, the following services may be available through an off-site laboratory: |
| Gonorrhea culture | Uncertain | Appropriate | |
| Gonorrhea sensitivity | Uncertain | Appropriate | |
| Extragenital site testing for gonorrhea/chlamydia | Appropriate | Appropriate | |
| NAATs for trichomonas | Uncertain | Appropriate | |

| Diagnostic tests | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Off-site laboratory testing | | | |
| HIV testing, including acute infection testing (e.g., HIV viral load, 4th generation assay) | Appropriate | Appropriate | • Gonorrhea culture<br>• Gonorrhea sensitivity<br>• NAATs for trichomonas<br><br>For providers delivering **specialized STD care**, the following services should be available through an off-site laboratory:<br>• Urogenital NAATs for gonorrhea and chlamydia<br>• Gonorrhea culture<br>• Gonorrhea sensitivity<br>• Extragenital site testing for gonorrhea/chlamydia<br>• NAATs for trichomonas<br>• HIV testing, including acute infection testing<br>• Syphilis serology<br>• HSV viral culture or PCR<br><br>For providers delivering **specialized STD care**, the following services may be available through an off-site laboratory:<br>• HSV serology |
| Syphilis serology | Appropriate | Appropriate | |
| HSV viral culture or PCR | Appropriate | Appropriate | |
| HSV serology | Appropriate | Uncertain | |

**Sheet 4. Patients can expect the following medications by prescription or to be dispensed on site, thus allowing directly-observed-therapy.**

| Medications available | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| On-site | | | |
| Benzathine Penicillin G 2.4 million units IM | Uncertain | Appropriate | For providers delivering **basic STD care**, the following medications should be available on site:<br>• Ceftriaxone 250mg IM<br>• Azithromycin 1gm PO<br><br>For providers delivering **basic STD care**, the following medications may be available on site:<br>• Benzathine Penicillin G 2.4 million units IM<br>• Gentamicin 240mg IM<br>• Cefixime 400 mg PO<br>• Doxycycline 100mg PO<br>• Therapy for genital warts- Provider-applied<br>• nPEP for HIV (starter packet for 3-5 days)<br>• Emergency contraceptive pills<br><br>For providers delivering **basic STD care**, the following medications may not be appropriate to have available on site:<br>• Moxifloxacin 400 mg PO<br><br>For providers delivering **specialized STD care**, the following medications should be available on site:<br>• Benzathine Penicillin G 2.4 million units IM<br>• Ceftriaxone 250mg IM<br>• Gentamicin 240mg IM<br>• Azithromycin 1gm PO<br>• Provider-applied therapy for genital warts<br>• Emergency contraceptive pills |
| Ceftriaxone 250mg IM | Appropriate | Appropriate | |
| Gentamicin 240mg IM | Uncertain | Appropriate | |
| Azithromycin 1gm PO | Appropriate | Appropriate | |
| Cefixime 400 mg PO | Uncertain | Uncertain | |
| Doxycycline 100mg PO | Uncertain | Uncertain | |
| Moxifloxacin 400 mg PO | Inappropriate | Uncertain | |
| Provider-applied therapy for genital warts (cryotherapy, trichloroactetic acid**,** bichloroacetic acid**,** etc.) | Uncertain | Appropriate | |
| nPEP of HIV (starter packet for 3-5 days) | Uncertain | Uncertain | |
| Emergency contraceptive pills | Uncertain | Appropriate | |

| Medications available | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| On-site | | | |
| | | | For providers delivering **specialized STD care**, the following medications may be available on site:<br>• Cefixime 400 mg PO<br>• Doxycycline 100mg PO<br>• Moxifloxacin 400 mg PO<br>• nPEP of HIV (starter packet for 3-5 days) |

| Medications available | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Prescription | | | |
| Acyclovir, Valacyclovir, or Famciclovir | Appropriate | Appropriate | For providers delivering **basic STD care**, the following medications should be available by prescription:<br>• Acyclovir, Valacyclovir, or Famciclovir<br>• Bactrim DS PO<br>• Fluconazole 150mg PO or other antifungal<br>• Gemifloxacin 320mg PO<br>• Metronidazole 500mg PO<br>• Patient-applied therapy for genital warts<br>• nPEP of HIV (beyond starter supply)<br>• PrEP<br><br>For providers delivering **specialized STD care**, the following medications should be available by prescription:<br>• Acyclovir, Valacyclovir, or Famciclovir<br>• Bactrim DS PO<br>• Fluconazole 150mg PO or other antifungal |
| Bactrim DS PO | Appropriate | Appropriate | |
| Fluconazole 150mg PO or other antifungal | Appropriate | Appropriate | |
| Gemifloxacin 320mg PO | Appropriate | Uncertain | |
| Metronidazole 500mg PO (prescription) | Appropriate | Appropriate | |
| Patient-applied therapy for genital warts (imiquimod, podofilox, sinecatechins) | Appropriate | Appropriate | |
| nPEP of HIV (beyond starter supply) | Appropriate | Uncertain | |

| Medications available | Basic STD Care | Specialized STD Care | Rating Interpretation |
|---|---|---|---|
| Prescription | | | |
| PrEP | Appropriate | Uncertain | • Metronidazole 500mg PO<br>• Patient-applied therapy for genital warts<br><br>For providers delivering **specialized STD care**, the following medications may be available by prescription:<br>• Gemifloxacin 320mg PO<br>• nPEP of HIV (beyond starter supply)<br>• PrEP |