Sexually Transmitted Disease Services in California's Medi-Cal Managed Care:

Findings from a Baseline Survey of STD Care Delivery in 2002

Prepared by

Nadereh Pourat, Ph.D.[1]

Jas Nihalani, M.P.H.[2]

Natasha Razack, M.P.H.[1]

Romni Neiman[2]

Barry Handon, M.D., M.P.H.[2]

George Rutherford, M.D.[3]

E. Richard Brown, Ph.D.[1]

Gail Bolan, M.D.[2]

[1] UCLA Center for Health Policy Research

[2] California Department of Health Services

[3] University of California, San Francisco

August 2006

UCLA CENTER FOR HEALTH POLICY RESEARCH

California Chlamydia Action Coalition

CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Sexually Transmitted Disease Services in California's Medi-Cal Managed Care:

Findings from a Baseline Survey of STD Care Delivery in 2002

Prepared by

Nadereh Pourat, Ph.D.[1]

Jas Nihalani, M.P.H.[2]

Natasha Razack, M.P.H.[1]

Romni Neiman[2]

Barry Handon, M.D., M.PH.[2]

George Rutherford, M.D.[3]

E. Richard Brown, Ph.D.[1]

Gail Bolan, M.D.[2]

[1] UCLA Center for Health Policy Research

[2] California Department of Health Services

[3] University of California, San Francisco

August 2006

UCLA CENTER FOR HEALTH POLICY RESEARCH

California Chlamydia ACTION COALITION

CALIFORNIA DEPARTMENT OF HEALTH SERVICES

UCLA CENTER FOR HEALTH POLICY RESEARCH

The research for this report was supported by the State of California through Cooperative Agreement Number: H25/CCH904362-13, the Centers for Disease Control and Prevention, Comprehensive Sexually Transmitted Diseases (STD) Prevention Systems Grant. Additional support was provided by the California HealthCare Foundation, based in Oakland, California.

The California HealthCare Foundation is a non-profit philanthropic organization whose mission is to expand access to affordable, quality health care for underserved individuals and communities and to promote fundamental improvements in the health status of the people of California.

Suggested Citation: Pourat N, Nihalani J, Razack N, Neiman R, Rutherford G, Handon B, Brown ER, Bolan G, *Sexually Transmitted Disease Services in California's Medi-Cal Managed Care: Findings from a Baseline Survey of STD Care Delivery in 2002.* Los Angeles, UCLA Center for Health Policy Research, August 2006.

The UCLA Center for Health Policy Research is based in the UCLA School of Public Health and is affiliated with the UCLA School of Public Policy and Social Research.

Visit the Center's website at:
www.healthpolicy.ucla.edu

Visit the California Chlamydia Action Coalition's website at:
www.ucsf.edu/castd

Visit the California Department of Health Services, STD Control Branch at:
www.dhs.ca.gov/ps/dcdc/STD/stdindex.htm

Arnold Schwarzenegger,
Governor
State of California

Kimberly Belshé,
Secretary
Health and Human
Services Agency

CALIFORNIA DEPARTMENT
OF HEALTH SERVICES

Sandra Shewry,
Director
Department of
Health Services

Table of Contents

Exhibits

exhibits

Exhibits (continued)

acknowledgments

Acknowledgments

The authors wish to thank Heidi Bauer, Chief, Office of Medical and Scientific Affairs, STD Control Branch, California DHS; Helen DuPlessis, formerly Chief Medical Officer, Los Angeles Care Health Plan; Steven Wallace, Associate Director, UCLA Center for Health Policy Research; and Ying Ying Meng, Senior Research Scientist, UCLA Center for Health Policy Research, for their review of this manuscript. We are especially grateful for the in-depth comments by Kathleen Irwin, formerly Chief, Health Services Research and Evaluation Branch, Division of STD Prevention, CDC. The authors are also grateful for the contributions to this report made by the following individuals at the UCLA Center for Health Policy Research: Hongjian Yu, Ph.D., Associate Director; Armine Lulejian, Project Manager; and Doo Ree Jung, Research Assistant.

Author Affiliations:

This report was prepared by the following individuals: Nadereh Pourat, Ph.D., Senior Research Scientist, UCLA Center for Health Policy Research, and Adjunct Assistant Professor of Health Services, UCLA School of Public Health; Natasha Razack, M.P.H., formerly Project Manager at the UCLA Center for Health Policy Research; E. Richard Brown, Ph.D., Director of the UCLA Center for Health Policy Research, Professor of Public Health, UCLA School of Public Health, and Principal Investigator for the California Health Interview Survey;

Jas Nihalani, M.P.H., Director, California Chlamydia Action Coalition (CCAC), UCSF, and Managed Care Liaison, STD Control Branch, California DHS; Barry Handon, M.D., M.P.H., Medical Consultant II, Medi-Cal Policy Division, California DHS; Romni Neiman, Chief, Disease Intervention Section, STD Control Branch, California DHS; Gail Bolan, M.D., Chief, STD Control Branch, California DHS and Co-Chair, Executive Steering Committee, CCAC; and George Rutherford, M.D., Salvatore Pablo Lucia Professor, Head of the Division of Preventive Medicine and Public Health, Department of Epidemiology and Biostatistics, UCSF, and Co-Chair, Executive Steering Committee, CCAC.

Sheri Penney of Penney Layne Productions provided valuable support and oversight for the editorial and production process. Finally, thanks to Donna Beilock, Anat Rodan, Susan Pielech, and Kylie O'Donohue of Ikkanda Design Group for designing and producing this report.

executive summary

Executive Summary

Sexually transmitted diseases (STDs) are the most common reportable infectious diseases in the United States, with an estimated 15.3 million new cases occurring annually. The burden of illness associated with STDs includes infertility, pregnancy complications, cancer, and a greater susceptibility to HIV infection. Teenagers, women, infants, some minority racial and ethnic groups, and the poor are the populations at the highest risk of STDs. In California, chlamydia and gonorrhea are the most common reportable STDs; Medi-Cal, California's version of the Medicaid program, serves a population that is socio-demographically similar to the general at-risk STD population.

A significant portion (57 percent) of Medi-Cal services in California were provided through Medi-Cal managed care in 2002. Managed care enrollment provides a unique opportunity to encourage a public health approach to disease prevention and health promotion. However, little is known about the recommendations of STD guidelines and whether primary care providers (PCPs) follow these guidelines in Medi-Cal managed care. In 2002 as part of a Medi-Cal chlamydia quality improvement initiative, a baseline survey of health maintenance organizations (HMOs), medical groups, and primary care physicians in Medi-Cal managed care was conducted to assess STD recommendations and practices. Eight California counties with the largest numbers of Medi-Cal beneficiaries and largest numbers of chlamydia cases were surveyed. The survey examined factors likely to impact PCP practices.

The findings of this report reflect the delivery of STD care before the initiative was implemented throughout the state; current data show that California's Medi-Cal managed care plans have shown significant improvement in Health Plan Employer and Data Information Set (HEDIS®) performance measures for Chlamydia screening.

Summary of Findings and Recommendations

The findings and recommendations from this study can be used to refine ongoing chlamydia quality improvement initiatives in Medi-Cal managed care plans, although this data comes from a period prior to the California Department of Health Services (CDHS) Medi-Cal Managed Care Division's implementation of a statewide Chlamydia Quality Initiative.

Conclusion 1. Medi-Cal HMOs consistently had diabetes and asthma guidelines, but inconsistently recommend chlamydia and gonorrhea screening, treatment, and prevention guidelines.

Recommendation. Medi-Cal HMOs should have explicit chlamydia screening and treatment recommendations.

Conclusion 2. More than two-thirds of HMOs had implemented general recommendations regarding annual chlamydia screening of sexually active females 15-25 years of age. However, the percentage of enrollees who were screened in those HMOs was less than one-fourth in half the HMOs.

Recommendation. To improve screening rates among contracted PCPs, HMOs should re-examine their PCP STD education efforts, the adequacy of their financial reimbursement, and should incorporate chlamydia related interventions within existing quality improvement activities.

Conclusion 3. PCP's adherence to STD guidelines that require the counseling of patients or presumptive treatment was higher than adherence to more partner-related practices, such as testing the partner or providing chlamydia medications for the partner's treatment.

Recommendation. To improve PCP's adherence to essential partner-related STD practices, such as providing chlamydia medications to partners, HMOs should consider using a combination of guideline recommendations, adequate reimbursement, and monitoring efforts.

Conclusion 4. PCPs with certain personal and business characteristics lagged behind others in following STD guidelines.

Recommendation. Education campaigns should target all PCPs but should specifically focus on providers who are less likely to adhere to STD guidelines, such as solo practitioners, male PCPs, PCPs specializing in fields other than obstetrics/gynecology, PCPs who had no recent STD training, PCPs who received no feedback from their HMO or medical group on their STD practices, and PCPs with a smaller volume of Medi-Cal patients.

Conclusion 5. PCPs' delivery of STD care was enhanced if training and feedback on STD practices were provided.

Recommendation. The implementation of multi-faceted interventions is essential in improving adherence to STD guidelines. Improving PCPs' adherence to STD guidelines can be achieved by providing STD guidelines, organizing training seminars, collecting PCP-specific screening data, and establishing mechanisms for provider feedback.

introduction

Introduction

Sexually transmitted diseases (STDs) are the most common reportable infectious diseases in the United States with an estimated 15.3 million new cases occurring annually.[1] The burden of illness associated with STDs includes infertility, pregnancy complications, cancer, and a greater susceptibility to HIV infection.[2] Nationally, about one-fourth of the 15.3 million new identified STDs occur among teenagers.[3] In addition, women, infants, some minority racial and ethnic groups, and the poor are also identified as the populations at the highest risk of STDs.[4]

In California, chlamydia and gonorrhea are the most common reportable STDs with rates per 100,000 population of 293.1 and 67.0 respectively in 2001. Females 15 to 19 and 20 to 24 years of age have the highest rates of infection, with chlamydia rates of 2,194.3 and 2,411.6, respectively and gonorrhea rates of 308.0 and 288.8, respectively. However these rates are considered to be significantly underestimated, due to incomplete screening coverage of at-risk populations, under-reporting of infections by medical and laboratory providers, and presumptively treated infections that are not confirmed by testing.[5]

Closure of public STD clinics has led to an increasing rate of diagnosis of STDs in the private sector. In California in 2001, the majority of gonorrhea and chlamydia cases (62 percent and 72 percent respectively) were listed as being reported from the private sector. Data from a prevalence-monitoring project in a Northern California HMO showed that, of those tested, approximately 5.6 percent of girls age 15 to 19 and 3.3 percent of women age 20 to 24 years were infected.[6] Given the changes in delivery of STD care, managed care has the potential to greatly impact the provision of quality STD services.

Medi-Cal, California's version of the Medicaid program, serves a population that is socio-demographically similar to the general at-risk STD population and is the primary payor of periodic health screening, prenatal care, and family planning services for low-income populations.[7] More than 60 percent of the female Medi-Cal recipients are 15 to 25 years old (data obtained from ASKCHIS, a data query system of the 2001 California Health Interview Survey *http://www.chis.ucla.edu/index.html*, June 18, 2003). The similarities between the demographic profile of the at-risk STD population and the Medi-Cal population highlight the importance of STD prevention and clinical management efforts by Medi-Cal.

A significant portion (57 percent) of Medi-Cal services in California were provided through Medi-Cal managed care in 2002, rather than fee-for-service (FFS) Medi-Cal. Delivery of care to the Medi-Cal population was shifted from FFS to managed care in the early 1990s in counties with the highest numbers of Medi-Cal recipients. This was an effort to improve quality of and access to care by reducing excess emergency room visits

1 Institute of Medicine. *The Hidden Epidemic.* Washington: National Academy Press; 1997.

2 Aral SO. Sexually transmitted diseases: magnitude, determinants and consequences. *International Journal of STD and AIDS.* Apr 2001;12(4):211-215.

3 Cates W, Jr. Estimates of the incidence and prevalence of sexually transmitted diseases in the United States. American Social Health Association Panel. *Sexually Transmitted Diseases.* Apr 1999;26(4 Suppl):S2-7.

4 Aral SO. Sexually transmitted diseases: magnitude, determinants and consequences. *International Journal of STD and AIDS.* Apr 2001;12(4):211-215. Wasserheit JN, The dynamic topology of sexually transmitted disease epidemics: implications for prevention strategies. *Journal of Infectious Diseases.* Oct 1996;174 Suppl 2:S201-213.

5 California Department of Health Services STD Control Branch. *Sexually Transmitted Diseases in California,* 2001. June 2003.

6 Ibid.

7 Gavin NI, Adams EK, Herz EJ, et al. The use of EPSDT and other health care services by children enrolled in Medicaid: the impact of OBRA '89. *Milbank Quarterly.* 1998;76(2):207-250. Lafferty WE, Kimball AM, Bolan G, Handsfield HH. Medicaid managed care and STD prevention: opportunities and risks. *Journal of Public Health Management and Practice.* Jan 1998;4(1):52-58.

and hospitalizations and improving preventive and primary care. The California Department of Health Services (CDHS) uses three primary models of Medi-Cal managed care: the Two-Plan model, the County Organized Health System (COHS), and Geographic Managed Care (GMC).

HMO enrollment provides a unique opportunity to encourage a public health approach to disease prevention and health promotion.[8] However, the fluidity of commercial HMO's entry into and exit from the Medi-Cal market and the high rates of turnover among Medi-Cal enrollees may not provide the Medi-Cal population with the opportunity to realize the benefits of HMO coverage. Both of these factors can lead to fewer economic incentives for health plans to invest in STD prevention for short-term enrollees.[9] However, the rapid entry of commercial HMOs into the Medicaid market in the past has generated concern about the experience of these organizations in serving the Medi-Cal population.[10] In question is also the ability of HMOs to impact physicians' delivery of STD care, given multiple HMO or medical group contracts per provider. The presence of potentially conflicting financial or nonfinancial incentives, given multiple contractual arrangements, may impact aspects of care delivery that are as yet unmeasured.

In 2001, little was known about the HMO or medical group recommendations of STD guidelines and whether primary care providers (PCPs) follow existing STD guidelines in Medi-Cal managed care. STD recommendations fall under the larger umbrella of quality improvement (QI) activities. In general, most health plans carry out significant QI activities, though much of their efforts may be focused on management of chronic conditions or childhood immunizations. Less is known about QI activities among medical groups and independent practice associations (IPAs). A 1996 study of QI programs among capitated medical groups in a large network model HMO in California identified some QI activities among most capitated physician groups. The scope of these activities was positively related with number of years in existence, higher profitability, and capitated care penetration.[11]

STD guidelines specified below are developed primarily by the Centers for Disease Control and Prevention (CDC),[12] U.S. Preventive Services Task Force (USPSTF),[13] or are part of California laws. They are promoted jointly by the California Chlamydia Action Coalition (CCAC)[14] which is a partnership of the CDHS STD Control Branch, University of California, San Francisco, and the California HealthCare Foundation. In combination, these guidelines are designed to provide comprehensive and effective STD care and curb the spread of chlamydia and gonorrhea.

8 Centers for Disease Control and Prevention. *Prevention and Managed Care: Opportunities for Managed Care Organizations, Purchasers of Health Care, and Public Health Agencies:* Morbidity and Mortality Weekly Report 44; 1995. RR-14.

9 Brown ER, Nakashima J, Pourat N, Razack N, Chiu S. *Delivery of Sexually Transmitted Disease Services in Medicaid Managed Care.* Los Angeles: UCLA Center for Health Policy Research; June 2002.

10 Pourat N, Brown ER, Razack N, Kassler W. Medicaid managed care and STDs: missed opportunities to control the epidemic. *Health Affairs.* May-Jun 2002;21(3):228-239. Brown ER, Nakashima J, Pourat N, Razack N, Chiu S. *Delivery of Sexually Transmitted Disease Services in Medicaid Managed Care.* Los Angeles: UCLA Center for Health Policy Research; June 2002.

11 Kerr EA, Mittman BS, Hays RD, Leake B, Brook RH. Quality assurance in capitated physician groups. Where is the emphasis? *Journal of Americal Medical Association.* Oct 16 1996;276(15):1236-1239.

12 Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 1989. *MMWR.* 1989;38. Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2002. *MMWR.* 2002;51.

13 U.S. Preventive Services Task Force. Screening for chlamydia infection: Recommendations and rationale. *American Journal of Preventive Medicine.* 2001;20(3S):90-94.

14 California Chlamydia Action Coalition. *Chlamydia screening and treatment practice guidelines.* 2002.

This report examines STD practices of Medi-Cal HMO PCPs in eight California Counties as well as promotion of selected STD guidelines by their affiliated Medi-Cal HMO and medical groups in 2002. This study is part of a larger CCAC initiative to improve chlamydia screening in California. Data were collected as baseline information to inform and refine a statewide chlamydia quality improvement initiative. Results will aid in further development of quality improvement interventions at the provider and plan level. The STD practices examined in the report include obtaining sexual history, adherence to screening guidelines, clinical and partner management, types of diagnostic tests ordered, and prescription guidelines, with a specific focus on chlamydia and gonorrhea.

The screening practice guidelines evaluated include annual screening of sexually active females 25 years of age or younger for chlamydia, which is recommended by the CDC, CCAC, and USPSTF. For this study we focused on the annual screening of females age 15-25 as consistent with the chlamydia measure in the Health Employer Data Information Set (HEDIS®). Annual chlamydia screening in younger women is recommended due to high rates of silent or symptom-free infections that can lead to complications if untreated. Research shows that annual chlamydia screening of young females is effective in reducing pelvic inflammatory disease and is also cost effective.[15] In addition, screening can lead to a decrease of chlamydia in the general population. Furthermore, the inclusion of chlamydia screening in the HEDIS quality of care criteria has increased the importance to HMOs of following this guideline, because they may seek National Committee for Quality Assurance (NCQA) accreditation.

STD practice guidelines also include obtaining a sexual history at the first non-urgent visit implicit in CDC guidelines, and recommended by CCAC. Obtaining a sexual history is an essential practice in identifying individuals at risk for STDs, particularly those with multiple sexual partners, a history of STDs, and partners' histories of STDs. However, research shows that taking a sexual history is not a usual feature of primary care.[16]

STD clinical management guidelines include presumptive treatment of chlamydia in the presence of gonorrhea (recommended by CDC), direct observation of oral dosage for chlamydia (implicit in CDC guidelines and recommended by CCAC), and the provision of services to minors without parental notification or consent (recommended by CDC and required by California law). Presumptive treatment of chlamydia in the presence of gonorrhea is recommended due to the high prevalence of co-morbidity between these two STDs and the cost effectiveness of this approach. Direct observation of the oral dosage of chlamydia patients is primarily indicated to improve compliance among noncompliant patients who use a single dose of azithromycin as a cost effective treatment method. Service provision to minors without parental notification or consent is aimed to improve the minor's access to confidential STD care by alleviating the minor's fear of parental knowledge and permitting physicians to provide care to minors without the need for parental consent. STD practice guidelines also include preventive counseling of patients after

15 Gene MM, P-A. A cost-effectiveness analysis of screening and treatment for chlamydia trachomatis infection in asymptomatic women. *Annals of Internal Medicine.* 1996;124:1-7. Scholes D, Stergachis A, Heidrich FE, Andrilla H, Holmes KK, Stamm WE. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. *New England Journal of Medicine.* May 23, 1996;334(21):1362-1366. Marrazzo JM, Celum CL, Hillis SD, Fine D, DeLisle S, Handsfield HH. Performance and cost-effectiveness of selective screening criteria for Chlamydia trachomatis infection in women. Implications for a national Chlamydia control strategy. *Sexually Transmitted Diseases.* Mar 1997;24(3):131-141. Addiss DG, Vaughn ML, Ludka D, Pfister J, Davis JP. Decreased prevalence of Chlamydia trachomatis infection associated with a selective screening program in family planning clinics in Wisconsin. *Sexually Transmited Diseases.* Jan-Feb 1993;20(1):28-35.

16 Tao G, Irwin KL, Kassler WJ. Missed opportunities to assess sexually transmitted diseases in U.S. adults during routine medical checkups. *American Journal of Preventive Medicine.* Feb 2000;18(2):109-114.

HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA)

taking the sexual history in the same visit (recommended by CDC and CCAC). Counseling patients after conducting a sexual history is an opportunity for providers to assist patients in reducing high-risk behaviors.

STD clinical management guidelines also include utilization of the more sensitive nucleic acid amplification test (NAAT) for chlamydia diagnosis as recommended by CCAC, and prescription of CDC recommended chlamydia and gonorrhea medications and CCAC recommended chlamydia medications. NAAT is more costly than other available diagnostic alternatives, but it is recommended for patients who may not be receiving pelvic exams and, for reasons of increased sensitivity, ease of specimen collection and patient acceptability. In California, Medi-Cal reimburses providers for the NAAT at a higher rate than other tests; however, this higher rate does not necessarily increase reimbursement to the health plans, because it is a small proportion of the capitation rate. In general Medi-Cal capitates health plans based on managed care data, although individual Medi-Cal managed care plans can reimburse laboratories at various rates for services delivered, depending on whether they pay their laboratories on a FFS or capitated basis.

The single-dose prescription of azithromycin for chlamydia treatment is recommended to improve patient compliance, though it is more costly than the inexpensive alternative, doxycycline. The preferred drugs for the treatment of gonorrhea generally include selected cephalosporins and fluoroquinolones (CDC). However, in 2002, fluoroquinolones were no longer recommended as the appropriate treatment for gonorrhea in California due to the increasing levels of resistance.

Partner management guidelines include advising infected patients to notify partners regarding exposure and need for medical care (recommended by CDC and CCAC, and required by California law), recommending testing and treating of all partners during the time period of most likely acquisition and transmission (recommended by CDC and CCAC), and providing chlamydia drugs for partners' treatment (recommended by CCAC and permitted by California law). Partner management is essential in minimizing further spread of disease through the partner and to reduce the risk of re-infection of the patient. To increase timely partner treatment, in 2001 a California law was passed that allows providers to provide chlamydia medications for the partner's treatment through the patient. PCPs were asked if they conducted this activity regardless of health plan membership or reimbursement, as recommended in the 1997 Institute of Medicine (IOM) Report (page 297).[17]

Other STD-related activities that were evaluated in this study include STD education of patients and PCPs, PCP training, and monitoring activities of HMOs, among others. Patient education methods include counseling by physician or office staff, disease-specific brochures, general brochures in exam or waiting rooms, newsletters, and websites.

This report contains the following sections and chapters: Methods; prevalence of chlamydia and gonorrhea and Medi-Cal HMO enrollment in California; characteristics of respondents; HMO and medical group STD recommendations and PCP adherence to STD guidelines; concordance of PCP practice with HMO and medical group recommendations; predictors of PCP STD practices; and conclusions and recommendations.

17 Institute of Medicine. *The Hidden Epidemic. Washington:* National Academy Press; 1997.

Methods

Sample selection. In 2002, California counties were ranked on the basis of rates of chlamydia and gonorrhea, and overall numbers of Medi-Cal recipients and Medi-Cal HMO enrollment. Eight counties were identified as having both the highest rates of STDs and the highest number of Medi-Cal HMO enrollees. These counties were Alameda, Sacramento, Fresno, San Bernardino, Riverside, Los Angeles, Orange, and San Diego. Riverside and San Bernardino Counties were combined and examined together in this report since they are organized under one regional local initiative and one commercial plan in the Two-Plan Medi-Cal managed care model. Overall, all of the above counties included 79 percent of Medi-Cal HMO enrollees, and 71 percent of chlamydia and 73 percent of gonorrhea cases in the state. Counties with high rates of chlamydia and gonorrhea and a high percentage of the Medi-Cal population enrolled in HMOs were selected because they indicated where quality STD prevention services and control measures are needed.

All Medi-Cal HMOs in each county, a total of 25 plans, were identified. A self-administered survey was mailed to all medical directors of these health plans and followed up with phone calls and faxes to increase response rates. An electronic version of each plan's PCP directory was obtained. An unduplicated database of all PCPs contracted with Medi-Cal HMOs was constructed and served as a sampling frame for a survey of Medi-Cal HMO PCPs. From the PCP responses, the medical groups that contracted with these PCPs and provided the largest share of their Medi-Cal patients were identified and subsequently surveyed.

The HMO Survey. Self-administered questionnaires were mailed to medical directors of all Medi-Cal HMOs that operated in the selected counties from March through August 2002. During the course of the project, two health plans were dissolved and the majority of those PCPs contracted with another plan. Of the 23 health plans surveyed, 87 percent participated.

The Medical Group Survey. All surveyed PCPs were asked to identify their contracted Medi-Cal medical groups. Approximately one-third did not identify a medical group. Another three percent reported direct contracting with the health plan for their Medi-Cal HMO patients. Of the 140 medical groups identified, we were able to locate and contact 60 percent from May through October 2002. Of those contacted, 52 percent participated in the mailed survey.

The PCP Survey. The universe of Medi-Cal HMO PCPs, as identified by the Medi-Cal HMOs, were contacted for an interview. The Field Corporation was contracted to conduct these telephone interviews, which were conducted from January through May 2002. Each PCP was offered $75 to participate in the 15-minute interview. The choice of a self-administered survey was offered to those PCPs who were unable to complete the interview by phone. The adjusted response rate was 41 percent (948 PCPs), excluding those with inaccurate phone numbers and ineligible PCPs. PCPs who were contacted were considered ineligible if they had discontinued their Medi-Cal HMO contracts or no longer acted as a PCP during the study period. Of the original unduplicated list of physicians provided by Medi-Cal HMOs, 64 percent (6,096) were ineligible for participation in the survey, due to outdated contact information, a physician being a specialist outside the scope of the study, or changes in the contracts of PCPs with HMOs in the time between the collection of the PCP list from HMOs and the fielding of the survey. It is important to note that many of the PCPs also provide services in the FFF system.

Analysis Methods. The HMO, medical group and PCP data were separately analyzed to assess the extent of promotion of STD guidelines by HMOs and medical groups, as well as the extent to which STD guidelines were followed by PCPs. PCP adherence to STD guidelines was captured on a five-point Likert scale of one to five, with one representing always, two representing usually, three representing sometimes, four representing rarely, and five representing never. For much of the bivariate analysis, PCP adherence was measured in terms of consistent compliance—always or usually—with the STD recommendations. PCP adherence to STD guidelines was examined by a number of individual and business characteristics.

The association between HMOs' or medical groups' STD recommendations and PCP practice (two-tiered analysis) was identified. Further analysis was conducted to assess the concordance between the HMOs' and medical groups' recommendations with PCP practice (three-tiered analysis). Due to the lower response rate of medical groups and low rates of PCP reporting of medical groups, the two-tiered analysis of medical groups and PCPs and the three-tiered analysis of HMOs, medical groups and PCPs were limited. Subsequently, the results of this latter analysis are not always generalizable to the population of Medi-Cal PCPs, HMOs, or medical groups.

Sample sizes for the HMO and medical group estimates are provided in the related exhibits. The precision of the estimates for PCP data is examined by evaluating the coefficient of variation (CV) – the ratio of the error to the estimate. Estimates with a CV of 30 percent or higher are considered to be unreliable and are presented in *underlined italics.* Estimates with fewer than five observations are not presented. Differences identified among subgroups of PCPs are significant at probability values of 0.05 or less.

The independent impact of predictors of STD practices of PCPs was assessed in multivariate logistic regression models. Each model included the following predictors of PCP STD care: PCP gender, years in practice, specialty, solo practice setting, percent of Medi-Cal patients in the practice, STD training in the previous two years, feedback from the HMO or medical group on STD screening practices, availability of CDC and USPSTF guidelines, number of HMO and medical group contracts and type of Medi-Cal HMOs (COHS, GMC, and Two-Plan Model). Predictors with significant probability values of 0.05 or less were reported.

Study Limitations. This study included only Medi-Cal HMOs and medical groups with Medi-Cal contracts, and excluded providers who only provide series to FFS Medi-Cal. Thus, the findings of this report are applicable to Medi-Cal managed care and no comparisons with FFS only Medi-Cal were possible. Medi-Cal HMOs may differ from FFS only Medi-Cal in their delivery of STD care.

All data is self-reported. Physicians' self-reported practice may not reflect actual behavior, which is better measured through chart reviews. Similarly, HMO and medical group STD recommendations were not validated by a review of policies and practice guidelines.

The medical group data is presented in aggregate without differentiating whether the organization is an IPA, medical group, or management service organization (MSO). These types of organizations may differ greatly in the extent of their quality assurance and quality improvement activities. However, sample size limitations prevented any analysis by type of medical group. The county-specific analysis does not take into account factors such as variations in demographics of Medi-Cal patients and provider populations in these counties.

1. *Medi-Cal Population, HMO Enrollment, and Chlamydia and Gonorrhea Rates in California*

1

An examination of the eight California counties revealed that the rates of chlamydia varied by the counties studied. Five counties had rates above the California average of 293.1 per 100,000 county population. Only Riverside/San Bernardino (266.3) and Orange (197.9) Counties had rates lower than the state average (Exhibit 1). Gonorrhea rates for Alameda, Fresno, and Sacramento Counties were well above the state average rate of 67.0. The lowest rate of gonorrhea was observed in Orange County (22.8).

The population of Medi-Cal recipients also varied by the counties under study. Los Angeles County had the largest number of Medi-Cal recipients and the largest number of Medi-Cal HMO enrollees, but a 61 percent HMO penetration rate among Medi-Cal recipients. By contrast, Orange County, with 275,476 Medi-Cal recipients had a Medi-Cal HMO penetration rate of 92 percent. This high rate of Medi-Cal HMO penetration is because Orange County is a COHS, and state policy requires all Medi-Cal beneficiaries to enroll in the managed care plan. The counties with Two-Plan and GMC models have mandaatory enrollment in managed care for most aid codes, primarily children and families; however, seniors and persons with disabillities are exempt from mandatory enrollment in these models.

EXHIBIT 1. COUNTY CHARACTERISTICS

	MEDI-CAL RECIPIENTS	MEDI-CAL HMO ENROLLMENT	MEDI-CAL HMO PENETRATION RATE	MEDI-CAL MANAGED CARE MODEL	CHLAMYDIA RATE	GONORRHEA RATE
CALIFORNIA	5,493,134	3,121,779	57%	–	293.1	67.0
ALAMEDA	182,065	98,100	54%	TWO-PLAN COMMERCIAL	331.1**	144.6**
FRESNO	226,119	155,309	69%	TWO-PLAN COMMERCIAL	512.9**	95.5**
LOS ANGELES	2,135,014	1,312,317	61%	TWO-PLAN COMMERCIAL	359.9**	86.7**
ORANGE COUNTY	275,476	253,527	92%	COHS	197.9*	22.8*
RIVERSIDE/SAN BERNARDINO	499,869	299,382	60%	TWO-PLAN COMMERCIAL	266.3*	56.6*
SACRAMENTO	243,373	159,651	66%	GMC	349.7**	92.1**
SAN DIEGO	302,503	174,080	58%	GMC	314.5**	64.3*

Medi-Cal recipients and Medi-Cal enrollment numbers are reported for May 2002

Chlamydia and Gonorrhea rates per 100,000 population are for calendar year 2001

California Medi-Cal HMO enrollment numbers include the following types of plans: Two-Plan Model, County Organized Health System (COHS), Geographic Managed Care (GMC), special projects, Prepaid Health Plan (PHP), and Primary Care Case Management (PCCM)

*Prepared by California Department of Health Services

*Lower than state average

**Higher than state average

2. *Respondent, Organization, and Business Characteristics*

The personal and business characteristics of the respondents were examined. The associations of these characteristics with the delivery of STD services are examined in Chapter 3.

HMO Respondents. The majority (70 percent) of the respondents to the Medi-Cal HMO survey were medical directors, 80 percent of all respondents were physicians, 50 percent of all respondents had been in their current position for more than three years, and 40 percent of all respondents had graduated from their respective medical schools or training programs more than 20 years previously. Slightly more respondents (55 percent) were male, and half were 45 years of age or younger.

Medical Group Respondents. Two-thirds of medical group respondents were physicians, more than half (58 percent) had a tenure of more than three years in their current positions, and 63 percent of all respondents had graduated from their respective medical schools or training programs more than 20 years previously. Seventy percent were females, and 77 percent of all respondents were older than 45 years.

Medical Group Characteristics. Thirty five percent (17) of respondents were multi- specialty groups, 42 percent (20) were IPAs and the remaining 23 percent were family planning, free-standing, hospital-based, or other types of clinics. Less than one-third (31 percent) were members of group practice systems, 10 percent were members of hospital-owned group practice systems, and the remaining 58 percent were not members of any such systems. Almost half (49 percent) of medical groups in this study were for-profit entities.

Medi-Cal managed care constituted a significant proportion of the business for many of the medical groups. Almost half (21) of the medical groups had more than 75 percent of Medi-Cal enrollees, followed by eight that had 26 percent to 75 percent Medi-Cal enrollees, and one-third (14) that had less than 25 percent Medi-Cal enrollees. More than one-third (35 percent) of the medical groups reported they had only one Medi-Cal HMO contract. Less than one-third (31 percent) had two contracts, 15 percent had three to four contracts and 19 percent had five Medi-Cal HMO contracts. The size of the medical group, in terms of the number of PCPs contracted or employed with the organization was varied. Mid-sized groups dominated, with 33 percent of groups having 21 to 99 PCPs, and another 28 percent having 100 to 199 PCPs. Small groups of 20 or fewer PCPs were least common (15 percent). Most medical groups (77 percent) allowed obstetrician/gynecologists to act as PCPs, which is consistent with Medi-Cal Managed Care Division policy.

Medical groups were asked about contract arrangements with their contracted HMOs. The most common reimbursement method was capitation[18] for all PCP services with some sharing of financial risk[19] associated with insuring their patients (62 percent). Medical groups were less frequently paid other forms of capitation, such as taking the full financial risk for PCP and hospital services (24 percent), or full financial risk for all PCP services only (32 percent). FFS was a less common reimbursement method (15 percent) than any of the capitation payment methods.

In turn, 44 percent (21) of medical groups paid their PCPs on a capitated basis alone. Fewer medical groups (33 percent) reported both capitation and FFS as methods of PCP payment. Other forms of payment were reported by 15 percent (7) of medical groups and

18 Capitation refers to per member per month payments by HMOs to medical groups and to PCPs to provide specified health services to health plan members.

19 Contracts between HMOs and medical groups identify which entity will bear the financial risk for providing different types of services during the contract period.

included salary, FFS only, or combinations of these with financial incentives. In addition to form of payment, medical groups identified other financial incentives in their contractual arrangements with PCPs. Quality of care delivered by PCPs detemined by such factors as patient satisfaction or peer review) was most frequently utilized (35 percent) to modify PCP payment, followed by financial performance of groups (25 percent), such as profit sharing. Productivity (including number of visits) and management of utilization (rate of referrals, labs, or x-rays) were less commonly used components (18 percent) of PCP reimbursement.

Medical group payments from HMOs for STD-related lab services for chlamydia and gonorrhea were most often capitated (71 percent), but other arrangements, such as FFS or direct payment by HMOs to the lab, were also used (29 percent). In turn, medical groups paid for lab services mostly through capitation (49 percent), and least often through FFS (14 percent). Medical groups also reported using a combination of capitation and FFS or other payment methods for lab services (37 percent).

PCP Characteristics. Among PCPs who participated in the survey, one-fourth were 40 years of age or younger, more were male (65 percent), and 40 percent had graduated from medical school more than 20 years previously (Exhibit 2). PCPs were more often general or family practitioners (40 percent) and less often pediatricians (28 percent), internists (25 percent), or obstetrician/ gynecologists (7 percent). The largest group (41 percent) of PCPs in the study were solo practitioners.

PCP Patient Characteristics. Significant variation existed in the proportion of Medi-Cal patients in PCP practices. Thirty-four percent of PCPs reported that their practice panel included a high percentage (more than 50 percent) of Medi-Cal patients.

For 68 percent of PCPs, females 15 to 25 years of age constituted up to 25 percent of their Medi-Cal patients. A small proportion (11 percent) reported that young females constituted more than 50 percent of their Medi-Cal patients. When asked about the number of 15 to 25 year-old female Medi-Cal patients seen weekly in the practice, three-fourths of PCPs saw 25 or fewer such patients per week. The largest proportion of PCPs (48 percent) reported seeing 6 to 25 patients per week.

PCP Business Characteristics. Almost half (48 percent) of the PCPs studied reported only one Medi-Cal HMO affiliation. A notable 28 percent of the PCPs were directly contracting with Medi-Cal HMOs without a medical group affiliation and 42 percent of the remaining PCPs had only one Medi-Cal medical group contract.

Most PCPs surveyed were reimbursed through capitation (38 percent), or were salaried employees (35 percent). PCPs identified whether their reimbursement was impacted by various financial incentives specified in their contracts. Many were paid on the basis of quality of care provided (41 percent) or their management of utilization (36 percent).

EXHIBIT 2. PRIMARY CARE PROVIDER DEMOGRAPHIC AND PRACTICE CHARACTERISTICS

AGE	
40 YEARS OR YOUNGER	25%
41 TO 50 YEARS OLD	34%
51 TO 60 YEARS OLD	27%
61 YEARS OR OLDER	13%
GENDER	
MALE	65%
FEMALE	35%
NUMBER OF YEARS SINCE MEDICAL SCHOOL GRADUATION	
10 OR FEWER YEARS	27%
11 TO 20 YEARS	33%
21 TO 30 YEARS	25%
31 OR MORE YEARS	15%
SPECIALTY	
GENERAL OR FAMILY PRACTICE	40%
PEDIATRICS	28%
INTERNAL MEDICINE	25%
OBSTETRICS & GYNECOLOGY OR OTHER	7%
PRACTICE SETTING	
SOLO	41%
SINGLE SPECIALTY GROUP	14%
MULTISPECIALTY GROUP	20%
OTHER	25%
PERCENT MEDI-CAL PATIENTS	
UP TO 10%	21%
11-25%	19%
26-50%	25%
51-75%	17%
OVER 75%	17%

NUMBER OF CONTRACTS WITH MEDI-CAL HMO	
1	48%
2	29%
3	16%
4 OR MORE	7%
NUMBER OF CONTRACTS WITH MEDICAL GROUPS	
0	28%
1	42%
2	17%
3	13%
REIMBURSEMENT METHOD BY HMO OR MEDICAL GROUP	
CAPITATED	38%
FFS	10%
SALARY	35%
UNKNOWN	17%
HMO OR MEDICAL GROUP CONTRACT INCLUDES SPECIFIC CRITERIA*	
PRODUCTIVITY	29%
QUALITY	41%
UTILIZATION CONTROLS	36%
FINANCIAL PEFORMANCE OF HMO OR MEDICAL GROUP	35%
REPORTING OF POSITIVE TESTS TO HEALTH DEPARTMENT	
DOCTOR OR STAFF	76%
LAB	20%
HMO OR OTHER	2%
DON'T KNOW WHO REPORTS	2%
WAITING TIME FOR APPOINTMENTS WITH STD SYMPTOMS	
SAME DAY	58%
NEXT DAY	21%
WITHIN 2-3 DAYS	15%
WITHIN A WEEK	6%
ONE TO TWO WEEKS	*<1%*

Notes: *Underlined italic* estimates are not reliable.

Percentages may not add up to 100% due to rounding error.

* Payment categories overlap and do not add to 100%.

Prepared by UCLA Center for Health Policy Research

3. *HMO and Medical Group Recommendations of STD Guidelines and PCP Practice in Medi-Cal Managed Care*

The examined STD practices of Medi-Cal HMO PCPs in this section include adherence to screening, clinical and partner management guidelines, types of diagnostic tests ordered, and prescription guidelines for chlamydia and gonorrhea. This section also includes information about the source of STD guidelines and how these guidelines are disseminated to PCPs; HMO and medical group efforts in the implementation of chlamydia screening guidelines that are consistent with the HEDIS chlamydia measure, patient education efforts of HMOs, medical groups, and PCPs; and PCP STD training and monitoring.

Sexual History and Chlamydia Screening

CCAC recommendations to prevent the spread of chlamydia and other STDs include conducting sexual histories during the first non-urgent visit (see Exhibit 3). Of the Medi-Cal HMOs studied, 65 percent of the HMOs reported making this recommendation to their PCPs, and 61 percent of the contracted medical groups reported making the same recommendation. About two-thirds (68 percent) of PCPs reported consistently (always and usually) taking the sexual history of the patient at the first non-urgent visit.

The content of the sexual history was rarely recommended by HMOs, but 41 percent of medical groups reported recommending the content of the sexual history taken by PCPs. Of these, 88 percent recommended that a sexual history should include questions about recent sexual activity, number of sexual partners, or partners' STD history. Only one-third (31 percent) recommended questions about gender of sexual partner. PCPs mostly (82 percent) reported asking about recent sexual activity. Fewer PCPs (70 percent) asked about the number of sexual partners, gender of the sexual partners (65 percent), or the partners' STD history (64 percent).

Annual screening of young, sexually active females for chlamydia is recommended by CDC, USPSTF, and CCAC, is a HEDIS quality of care measure, and was included in the NCQA accreditation set in 2004. By mid 2002, many HMOs (84 percent) and medical groups (80 percent) recommended annual chlamydia screening of sexually active females aged 15 to 19 years old; and 85 percent of HMOs and 75 percent of medical groups recommended annual chlamydia screening of women 20 to 25 years old. (Exhibit 3). More than half of PCPs (58 percent) reported consistently screening females 15 to 19 years of age. This recommendation was consistently followed for females 20 to 25 years, as well, by about 62 percent of the PCPs, excluding pediatricians.

Preventive Counseling, Clinical Management, and Access to STD Care for Minors

STD practice recommendations by CDC and CCAC include preventive counseling after taking the sexual history of the patient. Only 29 percent of HMOs, but 65 percent of medical groups reported making this recommendation (Exhibit 3). The majority of PCPs (91 percent) reported consistently providing preventive counseling when a patient provided a sexual history.

PCPs were questioned about whether they faced any challenges in the delivery of STD counseling to patients and were asked to rank these challenges in

EXHIBIT 3. STD RECOMMENDATIONS OF HMOS AND MEDICAL GROUPS, AND PRIMARY CARE PROVIDERS' STD PRACTICE IN MEDI-CAL MANAGED CARE

		HMO RECOMMENDS		MEDICAL GROUP RECOMMENDS		PRIMARY CARE PROVIDERS' PRACTICES			
	RECOMMENDATION SOURCE	NUMBER	PERCENT	NUMBER	PERCENT	ALWAYS	USUALLY	HALF THE TIME	RARELY OR NEVER
SCREENING									
OBTAIN SEXUAL HISTORY AT FIRST NON-URGENT VISIT	CDC, CCAC	13/20	65%	25/41	61%	38%	30%	19%	14%
SCREEN SEXUALLY ACTIVE FEMALES 15-19 ANNUALLY FOR CHLAMYDIA	CDC, CCAC, USPSTF, HEDIS	16/19	84%	28/35	80%	35%	23%	13%	29%
SCREEN WOMEN BETWEEN 20-25 ANNUALLY FOR CHLAMYDIA	CDC, CCAC, USPSTF, HEDIS	17/20	85%	27/36	75%	39%	23%	12%	27%
SCREEN WOMEN OVER 25 FOR CHLAMYDIA IF HAVE HISTORY OF STD	USPSTF	11/19	58%	20/39	51%	62%	18%	4%	16%
SCREEN WOMEN OVER 25 FOR CHLAMYDIA IF HAVE MULTIPLE SEXUAL PARTNERS	USPSTF	11/18	61%	24/39	62%	53%	20%	6%	21%
CLINICAL MANAGEMENT									
PROVIDE PREVENTIVE COUNSELING AFTER TAKING THE SEXUAL HISTORY	CDC, CCAC	5/17	29%	26/40	65%	62%	29%	6%	4%
PRESUMPTIVELY TREAT CHLAMYDIA IN PRESENCE OF GONORRHEA	CDC	8/17	47%	27/37	73%	72%	15%	3%	10%
DIRECT OBSERVATION OF ORAL DOSAGE OF PATIENTS FOR CHLAMYDIA	CDC, CCAC	3/16	19%	3/34	9%	20%	17%	12%	50%
PROVIDE SERVICES TO MINORS WITHOUT PARENTAL/GUARDIAN NOTIFICATION OR CONSENT	CDC, CA	10/18	56%	22/38	58%	32%	16%	9%	43%
PARTNER MANAGEMENT									
ADVISE INFECTED PATIENTS TO NOTIFY PARTNERS AND URGE TESTING	CDC, CCAC, CA	7/19	37%	20/31	65%	93%	5%	*<1%*	*1%*
TEST AND TREAT PARTNER REGARDLESS OF MEMBERSHIP OR REIMBURSEMENT*	IOM	3/19	16%	9/31	29%	31%	15%	9%	45%
PROVIDE CHLAMYDIA DRUGS FOR PARTNER'S TREATMENT**	CCAC	4/19	21%	12/31	39%	20%	16%	13%	51%

CA: California State Law

CDC: Centers for Disease Control and Prevention

CCAC: California Chlamydia Action Coalition

HEDIS: Health Employer Data Information Set

USPSTF: U.S. Preventive Services Task Force

IOM: Institute of Medicine

*Testing and treating of the partner is recommended by CDC, CCAC, and CA. However, only IOM recommends this is done regardless of membership or reimbursement.

**California law permits providers to prescribe chlamydia drugs to the patient for partner's treatment.

Note: *Underlined italic* estimates are not reliable.
Percentages may not add up to 100% due to rounding error.

Prepared by UCLA Center for Health Policy Research

order of importance. Slightly more than one in ten (13 percent) of the PCPs reported no challenges in providing STD counseling to patients (Exhibit 4). However, among the remainder who had experienced challenges, patient discomfort in discussing sex (25 percent) was rated as the most important, followed by 22 percent who reported not having enough time for counseling. Patient or partner compliance (15 percent) was the third most important challenge and it encompassed issues such as patients disregarding PCP directions in taking medications, patients not bringing partners in for treatment, and patients engaging in high risk behaviors. PCPs reported confidentiality (5 percent) and patient dishonesty or denial (9 percent) as the other most important challenges to PCPs. Confidentiality included issues related to the presence of parents during adolescents' medical visits. Patient dishonesty or denial included reluctance to disclose sexual practices, as well as the PCP's concern about patient's honesty in reporting sexual behavior. In addition to the 13 percent of PCPs with no challenges, 57 percent reported only one challenge, with another 31 percent identifying more than one challenge.

Presumptive treatment of chlamydia in the presence of gonorrhea, recommended by CDC, was reportedly recommended by 47 percent of HMOs and 73 percent of medical groups, and was consistently practiced by 87 percent of PCPs (Exhibit 3). Direct observation of patients taking chlamydia medication recommended by CCAC was reportedly recommended by only three Medi-Cal HMOs and three medical groups. Only 37 percent of PCPs reported consistent practice of this guideline.

Providing services to minors without parental or guardian notification or consent is recommended by CDC and is permitted under California law. More than half of HMOs (56 percent), as well as 58% of medical groups, reported recommending this guideline. However, less than half of PCPs (48 percent) reported consistently following this guideline.

EXHIBIT 4. PRIMARY CARE PROVIDERS' REPORTS OF CHALLENGES IN DELIVERY OF STD COUNSELING IN MEDI-CAL MANAGED CARE

MOST IMPORTANT STD COUNSELING CHALLENGE (IF A CHALLENGE IS REPORTED)	
PATIENT DISCOMFORT DISCUSSING SEX	25%
NO TIME	22%
PATIENT (AND PARTNER) COMPLIANCE	15%
PATIENT DISHONESTY OR DENIAL	9%
OTHER	8%
PATIENT EDUCATION LEVEL	6%
CONFIDENTIALITY	5%
DOCTOR DISCOMFORT DISCUSSING SEX	5%
CULTURE OR LANGUAGE	3%
LACK OF TRAINING IN STD EDUCATION	*<1%*
NO REIMBURSEMENT	*<1%*
LACK OF TOOLS OR RESOURCES	*<1%*

Note: *Underlined italic* estimates are not reliable.

Prepared by UCLA Center for Health Policy Research

Partner Management and Treatment

Advising infected patients to notify their partners and urge testing and treatment is recommended by CDC and CCAC and is required under California law. Only 37 percent of HMOs, but 65 percent of medical groups reported making this recommendation to PCPs (Exhibit 3). However, almost all PCPs (98 percent) reported consistent practice of this guideline.

Testing and treating the partners of the infected patients is recommended by CDC; and testing and treating, regardless of membership or reimbursement,

is recommended by the IOM. Only three HMOs and nine medical groups report recommending this guideline to their PCPs. Less than half (46 percent) of PCPs report consistent practice of this guideline. Providing chlamydia drugs for the partner's treatment is recommended by CCAC and allowed under California law, though only four HMOs and 39 percent of medical groups report making this recommendation, while 36 percent of PCPs report consistently conducting this practice.

Chlamydia Testing

Although NAAT is more costly, it is the preferred test for reasons of increased sensitivity, ease of specimen collection, and patient acceptability. When asked if any specific chlamydia tests were recommended, 41 percent of Medi-Cal HMOs and 44 percent of medical groups had no recommendation. Of those who did, five HMOs (29 percent) and eight of the medical groups (22 percent) reported recommending NAAT (Exhibit 5). Among PCPs, only 11 percent identified NAAT as the most frequently ordered test. Forty-two percent of PCPs most frequently ordered nucleic acid hybridization probes and 47 percent most frequently ordered other tests. Among the latter group, most reported ordering culture (27 percent) followed by other (14 percent) and antigen detection (6 percent).

Chlamydia and Gonorrhea Medications

Utilizing effective therapies for the treatment of chlamydia and gonorrhea is essential for the delivery of good STD care. CDC periodically puts forth evidence-based guidelines regarding the most effective treatments for STDs. Forty-four percent of Medi-Cal HMOs and 46 percent of medical groups made no chlamydia or gonorrhea medication recommendations. Some HMOs (39 percent) and medical groups (25 percent) had made recommendations regarding both chlamydia and gonorrhea drugs (Exhibit 5). Among those with a chlamydia recommendation, the majority of HMOs (8 out of 9) and medical groups (10 out of 12) recommended both single dose azithromycin and multi-dose doxycycline, which are the therapies recommended by the CDC and CCAC for the treatment of chlamydia. PCPs most frequently prescribed doxycycline (46 percent), followed by azithromycin (41 percent), and other drugs (13 percent).

Among HMOs and medical groups with a gonorrhea recommendation, most HMOs (63 percent) and medical groups (72 percent) recommended some form of cephalosporins and some form of fluoroquinolones. PCPs most frequently prescribed cephalosporins, with ceftriaxone as the most prescribed medication (49 percent). Fluoroquinolones such as ciprofloxacin were less frequently prescribed (18 percent). Azithromycin was also prescribed (eight percent) for the treatment of gonorrhea and is not a CDC recommended regimen.

All HMOs reported that the above STD drugs are included in their drug formularies. HMOs were asked if their drug formularies were the same as Medi-Cal's – or were modified and adapted versions, – and 72 percent of HMOs reported a modified or adapted version. The majority of HMOs (80 percent) reported actively updating PCPs regarding formulary changes. Among this group, 63 percent reported at least annual updates, and 38 percent reported updates as changes occur. PCPs reported on the frequency of Medi-Cal HMO formulary updates on chlamydia and gonorrhea medications. Most (74 percent) reported having received at least annual updates. Twenty-four percent received irregular updates and four percent reported never having received any updates.

EXHIBIT 5. STD TESTING AND MEDICATION RECOMMENDATIONS OF HMOS AND MEDICAL GROUPS AND PRIMARY CARE PROVIDERS' PRACTICE IN MEDI-CAL MANAGED CARE

	HMO RECOMMENDS		MEDICAL GROUP RECOMMENDS		MOST FREQUENT CHLAMYDIA DIAGNOSTIC TEST ORDERED BY THE PRIMARY CARE PROVIDER	
	NUMBER	PERCENT	NUMBER	PERCENT		
SPECIFIC CHLAMYDIA TEST RECOMMENDATION					CHLAMYDIA TEST	
NONE	7/17	41%	16/36	44%	–	–
NUCLEIC ACID AMPLIFICATION TECHNOLOGY (NAAT)	5/17	29%	8/36	22%	NUCLEIC ACID AMPLIFICATION TECHNOLOGY (NAAT)	11%
NUCLEIC ACID HYBRIDIZATION PROBE	3/17	18%	6/36	17%	NUCLEIC ACID HYBRIDIZATION PROBE	42%
ANTIGEN DETECTION, CULTURE, OR OTHER	2/17	12%	6/36	17%	ANTIGEN DETECTION, CULTURE, OR OTHER	47%
CHLAMYDIA OR GONORRHEA DRUG RECOMMENDATIONS						
NONE	8/18	44%	22/48	46%	–	–
CHLAMYDIA ONLY	2/18	11%	0/48	0%	–	–
GONORRHEA ONLY	1/18	6%	6/48	13%	–	–
BOTH	7/18	39%	12/48	25%	–	–
NOT REPORTED	–	–	22/48	46%	–	–
					MOST FREQUENT STD DRUG PRESCRIBED BY THE PRIMARY CARE PROVIDER	
SPECIFIC CHLAMYDIA DRUG RECOMMENDATION					CHLAMYDIA DRUG	
AZITHROMYCIN AND DOXYCYCLINE	8/9	88%	10/12	83%	DOXYCYCLINE	46%
DOXYCYCLINE ONLY	1/9	13%	–	–	AZITHROMYCIN	41%
AZITHROMYCIN ONLY	–	–	2/12	17%	OTHER	13%
SPECIFIC GONORRHEA DRUG RECOMMENDATION					GONORRHEA DRUG	
CEPHALOSPORINS AND FLUOROQUINOLONES	5/8	63%	13/18	72%	CEFTRIAXONE	49%
CEPHALOSPORINS ONLY	1/8	13%	3/18	17%	OTHER CEPHALOSPORINS	9%
FLUOROQUINOLONES ONLY	1/8	13%	–	–	FLUOROQUINOLONES	18%
AZITHROMYCIN ONLY	1/8	13%	1/18	6%	OTHER	16%
NOT REPORTED	–	–	1/18	6%	AZITHROMYCIN	8%

Note: Percentages may not add up to 100% due to rounding error.

Prepared by UCLA Center for Health Policy Research

HMO formularies were examined independently to identify any restrictions on recommended medications for the treatment of chlamydia such as azithromycin and doxycycline. Doxycycline never required prior authorization and had few restrictions on its dosage or duration. Azithromycin required prior authorization in 37 percent of HMOs and was limited in dosage/duration in 74 percent of HMOs.

PCP Variations in STD Practice, Testing, and Prescription of STD Drugs

Differences in STD practice of PCPs were examined by a number of personal and business characteristics; significant differences with $p < 0.05$, were reported. When compliance with guidelines was examined by specialty (bivariate analysis), obstetrician/gynecologists

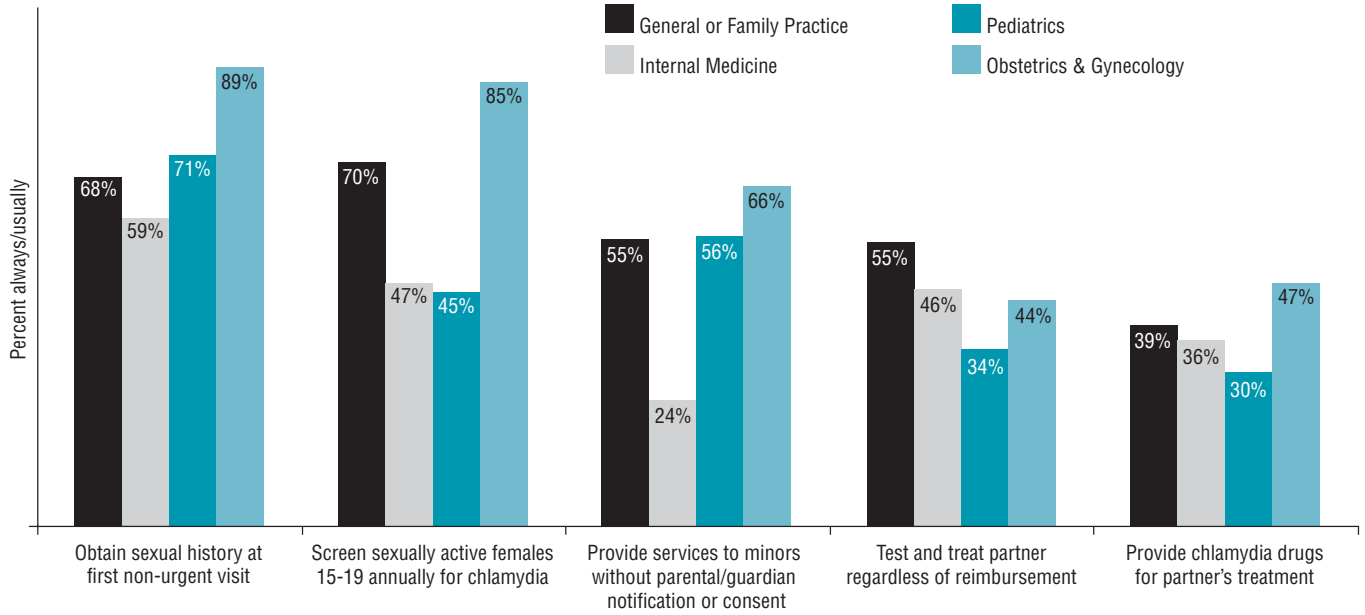
reported consistently (always/usually) following selected guidelines more often than did other PCPs. In comparison, internists followed guidelines less often than did other PCPs (Exhibit 6).

PCPs in solo practice differed in some of their reported practices in comparison to those in group or clinic settings. Solo practice PCPs less often (50 percent percent versus 64 percent) screened females age 15 to 19 years for chlamydia, and less often (37 percent versus 56 percent) provided services to minors without parental consent.

Female PCPs more often than male PCPs reported practices such as obtaining sexual history at first non-urgent visit (75 perent versus 64 percent), annual screening of females age 15 to 19 years for chlamydia (67 percent versus 54 percent), and providing services to minors without parental consent (56 percent versus 44 percent) (Exhibit 7).

PCP reports of compliance with STD control guidelines were closely associated with the volume of Medi-Cal patients in their practice. PCPs with more than 50 percent Medi-Cal patients more frequently followed STD guidelines, such as screening female patients 15 to 19 years of age (66 percent versus 44 percent), and providing services to minors without parental consent

EXHIBIT 6. CONSISTENT (ALWAYS/USUALLY) PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES BY PRIMARY CARE PROVIDERS' SPECIALTY IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

Internists less often obtained a sexual history at the first non-urgent visit than general or family practitioners, pediatricians, and obstetrician/gynecologists. Obstetrician/gynecologists more often obtained a sexual history at the first non-urgent visit than general or family practitioners, pediatricians, and internists.

General or family practitioners more often screened sexually active females 15-19 for chlamydia than internists and pediatricians. Obstetrician/gynecologists more often screened sexually active females 15-19 for chlamydia than general or family practitioners, internists, and pediatricians.

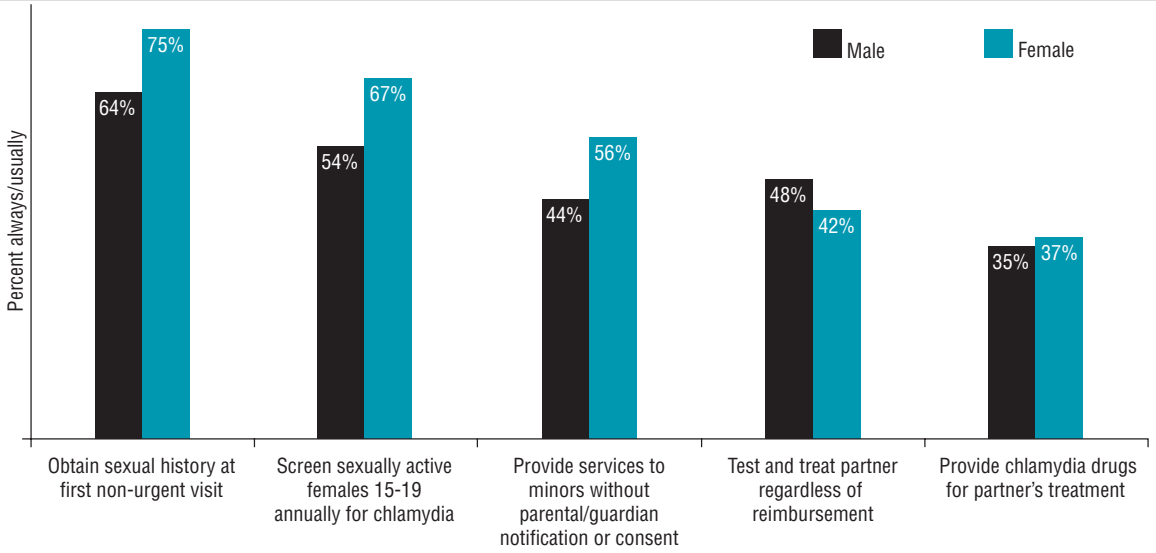
Internists less often provided services to minors without parental/guardian notification or consent than general or family practitioners, pediatricians, and obstetrician/gynecologists.

General or family practitioners more often tested and treated the partner regardless of reimbursement than internists and pediatricians. Pediatricians less often tested and treated the partner regardless of reimbursement than internists.

Pediatricians less often provided chlamydia drugs for partner's treatment than general or family practitioners and obstetrician/gynecologists.

Prepared by UCLA Center for Health Policy Research

EXHIBIT 7. CONSISTENT (ALWAYS/USUALLY) PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES BY PRIMARY CARE PROVIDERS' GENDER IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

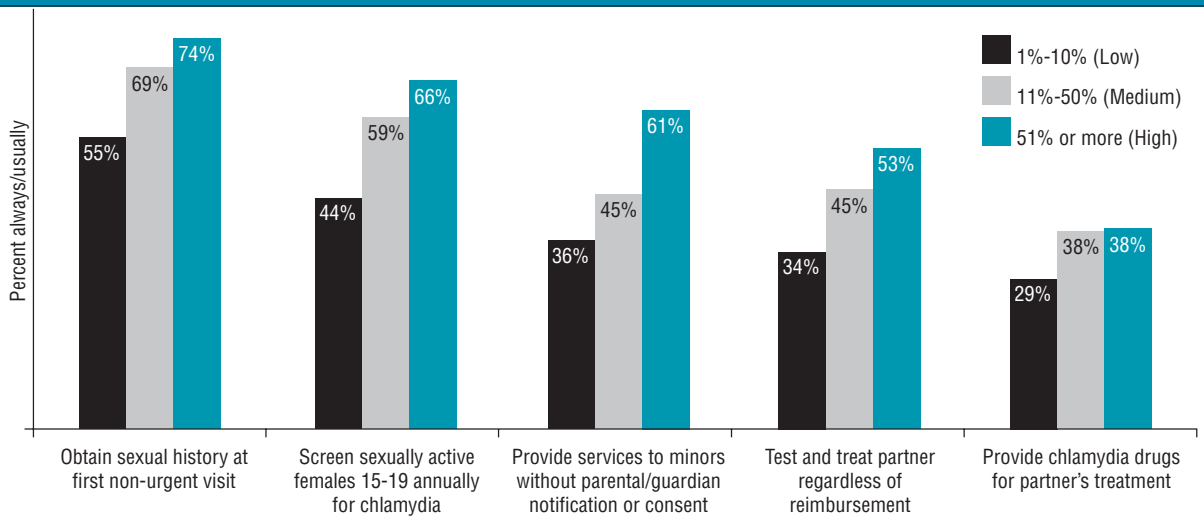
Female PCPs more often obtained a sexual history at first non-urgent visit than male PCPs.

Female PCPs more often screened sexually active females 15-19 for chlamydia than male PCPs.

Female PCPs more often provided services to minors without parent/guardian notification or consent than male PCPs.

Prepared by UCLA Center for Health Policy Research

EXHIBIT 8. CONSISTENT (ALWAYS/USUALLY) PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES BY PRIMARY CARE PROVIDERS' VOLUME OF MEDI-CAL PATIENTS IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

PCPs with a low volume of Medi-Cal patients less often obtained a sexual history at first non-urgent visit than PCPs with a medium or high volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients less often screened sexually active females 15-19 for chlamydia than PCPs with a medium or high volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients less often provided services to minors without parental/guardian notification or consent than PCPs with a medium or high volume of Medi-Cal patients. PCPs with a medium volume of Medi-Cal patients less often provided services to minors without parental/guardian notification or consent than PCPs with a high volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients less often tested and treated the partner regardless of reimbursement than PCPs with a medium or high volume of Medi-Cal patients. PCPs with a medium volume of Medi-Cal patients less often tested and treated the partner regardless of reimbursement than PCPs with a high volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients less often provided chlamydia drugs for partner's treatment than PCPs with a medium or high volume of Medi-Cal patients.

Prepared by UCLA Center for Health Policy Research

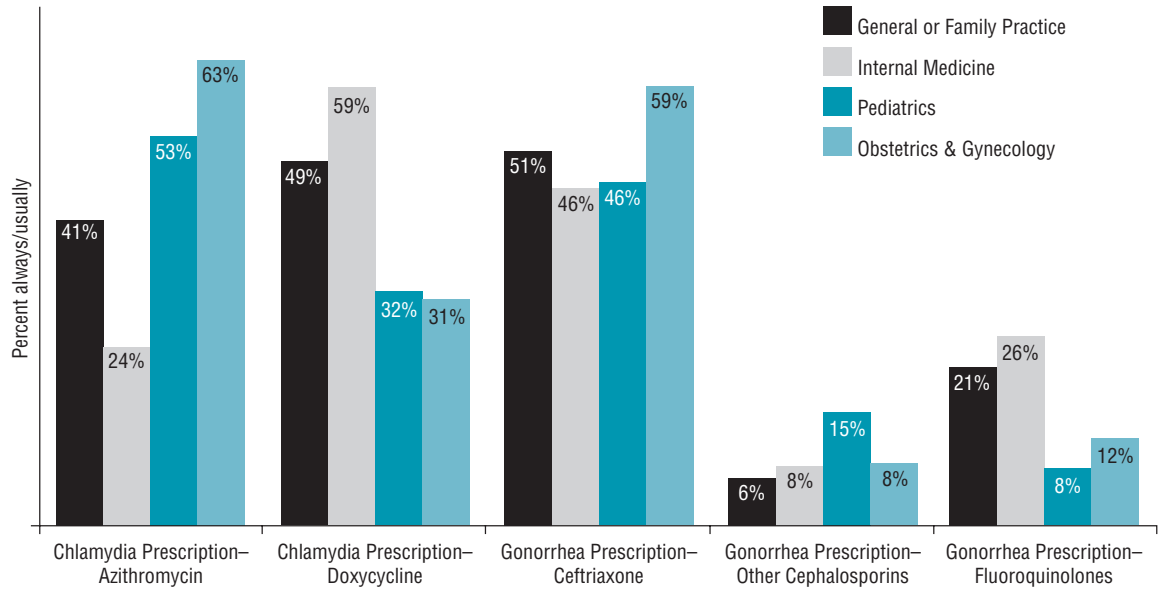
(61 percent versus 36 percent) than did those PCPs with less than did 10 percent Medi-Cal patients (Exhibit 8).

PCPs who had been in practice for ten or fewer years reported screening sexually active females 15 to 19 years old more frequently than PCPs who had been in practice for ten or more years (69 percent versus 54 percent) but did not differ significantly in other practices.

A number of significant differences in PCP practices by county of practice were identified. For example, PCPs in Orange County reported that they less often conducted chlamydia screening of females 15 to 19 years of age (47 percent) than did PCPs in Alameda (69 percent), Los Angeles (58 percent), Riverside/San Bernardino (68 percent), and San Diego (61 percent) Counties. Similarly, PCPs in Orange County less often provided services to minors without parental consent (36 percent) than did PCPs in Riverside/San Bernardino (53 percent), Sacramento (54 percent), and San Diego (55 percent) Counties.

The number of HMO contracts reported by each PCP was not significantly associated with guideline compliance. However, the number of medical group contracts was associated with taking a sexual history, screening females age 15 to 19 years, and providing chlamydia medications to the patient for the treatment of the partner. PCPs with no reported medical groups consistently followed guidelines more often than did PCPs with one medical group regarding taking sexual

EXHIBIT 9. PRIMARY CARE PROVIDERS' PRESCRIPTION OF CHLAMYDIA AND GONORRHEA MEDICATIONS BY SPECIALTY IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

General or family practitioners more often prescribed azithromycin for chlamydia treatment than internists. Pediatricians more often prescribed azithromycin for chlamydia treatment than general or family practitioners and internists. Obstetrician/gynecologists more often prescribed azithromycin for chlamydia treatment than internists.

General or family practitioners less often prescribed doxycycline for chlamydia treatment than internists. General or family practitioners more often prescribed doxycycline for chlamydia treatment than pediatricians and obstetrician/gynecologists. Internists more often prescribed doxycycline for chlamydia treatment than pediatricians and obstetrician/gynecologists.

Obstetrician/gynecologists more often prescribed ceftriaxone for gonorrhea treatment than internists.

Pediatricians more often prescribed other cephalosporins for gonorrhea treatment than general or family practitioners and internists.

General or family practitioners more often prescribed fluoroquinolones for gonorrhea treatment than pediatricians and obstetrician/gynecologists. Internists more often prescribed fluoroquinolones for gonorrhea treatment than pediatricians and obstetrician/gynecologists.

Prepared by UCLA Center for Health Policy Research

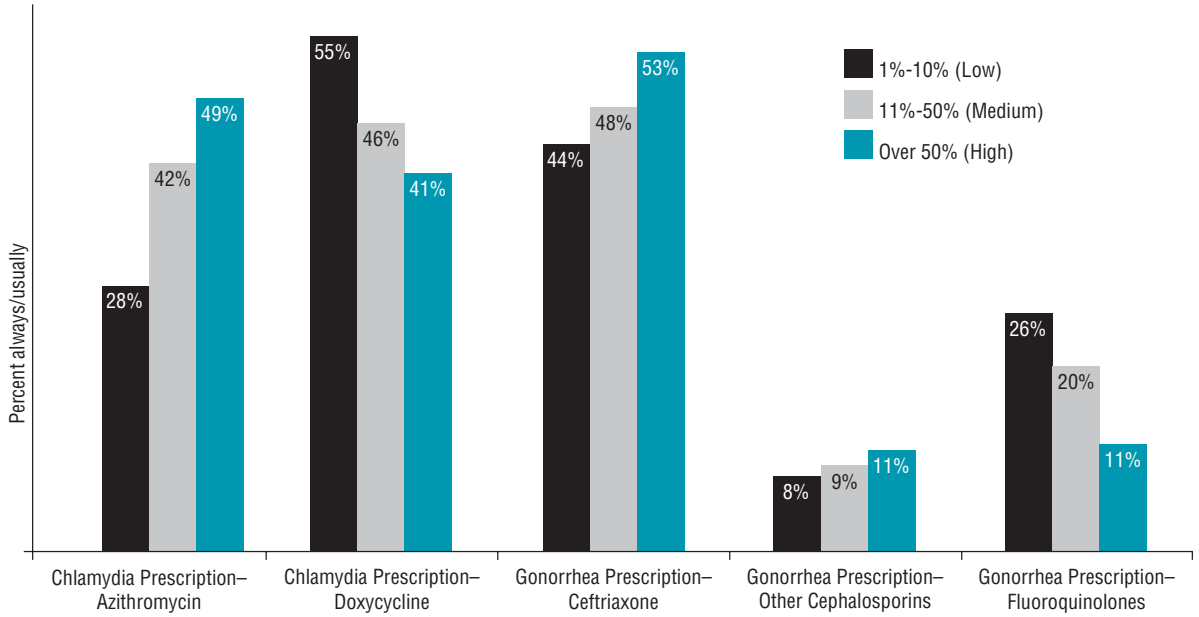
history (73 percent versus 64 percent) and testing and treating the partner (53 percent versus 41 percent). PCPs with two or more medical groups screened females 15 to 19 years old less often (51 percent) than did PCPs with no medical group (61 percent), or one medical group (61 percent).

PCP reimbursement methods such as FFS, capitation, or salary were not significantly associated with following most STD guidelines, with the exception of screening sexually active females age 15 to 19 years of age and providing services to minors without parental consent. Salaried PCPs more often followed these two guidelines (63 percent and 55 percent), and capitated PCPs least often followed these guidelines (53 percent and 40 percent).

Examining the prescription patterns of PCPs by their specialty revealed that obstetrician/gynecologists most often prescribed azithromycin (rather than doxycycline) for the treatment of chlamydia and internists least often prescribed azithromycin (Exhibit 9). Similarly, ceftriaxone was the medication more often prescribed for gonorrhea by all specialties, but most often by obstetrician/gynecologists. Other cephalosporins were most often prescribed by pediatricians, and fluoroquinolones were most often prescribed by internists.

An inspection of the reported prescription patterns of PCPs by their volume of Medi-Cal patients revealed that as the percentage of Medi-Cal patients in the practice increased, the proportion of PCPs who reportedly

EXHIBIT 10. PRIMARY CARE PROVIDERS' PRESCRIPTION OF CHLAMYDIA AND GONORRHEA MEDICATIONS BY VOLUME OF MEDI-CAL PATIENTS IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

PCPs with a low volume of Medi-Cal patients less often prescribed azithromycin for chlamydia treatment than PCPs with a medium or high volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients more often prescribed doxycycline for chlamydia treatment than PCPs with a medium or high volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients less often prescribed ceftriaxone for gonorrhea treatment than PCPs with a medium volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients more often prescribed fluoroquinolones for gonorrhea treatment than PCPs with a high volume of Medi-Cal patients.

PCPs with a medium volume of Medi-Cal patients more often prescribed fluoroquinolones for gonorrhea treatment than PCPs with a high volume of Medi-Cal patients.

Prepared by UCLA Center for Health Policy Research

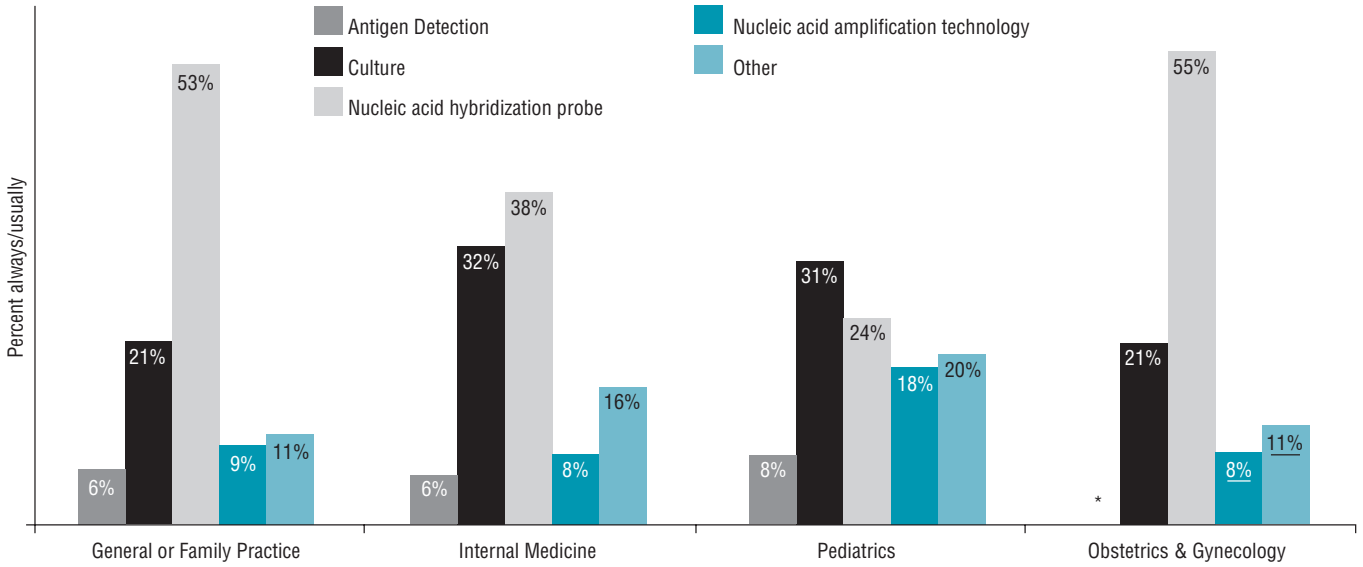
prescribed azithromycin for treatment of chlamydia rose, and the proportion who reportedly prescribed doxycycline declined. Similarly, with the increase in volume of Medi-Cal patients, the percentage of PCPs who prescribed ceftriaxone for gonorrhea rose and the percentage who prescribed fluoroquinolones decreased (Exhibit 10).

Variations in prescription of chlamydia drugs by county was also observed. A greater majority of PCPs in Alameda, Fresno, Riverside/San Bernardino, and San Diego counties prescribed azithromycin, while a greater majority of PCPs in Orange, Los Angeles, and Sacramento counties prescribed doxycycline.

PCPs differed by specialty in their use of chlamydia tests. The nucleic acid hybridization probe was used by general practice and family medicine (53 percent), obstetrician/gynecologists (55 percent), and internists (38 percent) (Exhibit 11). Pediatricians reported using culture the most (31 percent). NAAT was infrequently used by most PCPs with the exception of pediatricians (18 percent).

Use of tests also varied by county and volume of Medi-Cal patients in the PCP's practice. NAAT was used most by PCPs with over 50 percent of Medi-Cal patients. The nucleic acid hybridization probe was used frequently by all PCPs, but more so by PCPs with low

EXHIBIT 11. PRIMARY CARE PROVIDERS' MOST FREQUENTLY ORDERED CHLAMYDIA DIAGNOSTIC TEST BY SPECIALTY IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

Pediatricians more often ordered nucleic acid amplification technology tests than general or family practitioners, obstetrician/gynecologists, and internists.

General or family practitioners more often ordered nucleic acid hybridization probe tests than internists and pediatricians. Internists more often ordered nucleic acid hybridization probe tests than pediatricians. Obstetrician/gynecologists more often ordered nucleic acid hybridization probe tests than internists and pediatricians.

General or family practitioners less often ordered culture tests than internists and pediatricians.

General or family practitioners less often ordered other tests than pediatricians.

Note: *Underlined italic* estimates are not reliable.

* Sample n is less than 5.

Prepared by UCLA Center for Health Policy Research

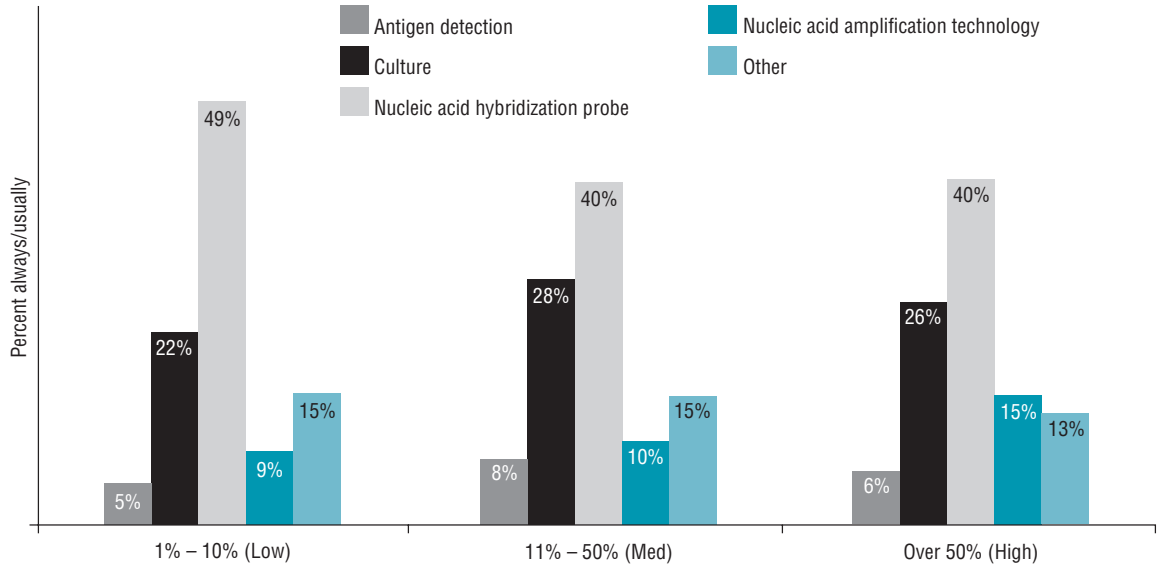
volume of Medi-Cal patients (1 percent-10 percent) in their practice (Exhibit 12). Among counties, PCPs in Alameda, Los Angeles, and San Diego (19 percent, 12 percent, and 18 percent, respectively) used NAAT more often than Orange County PCPs (6 percent). By contrast, PCPs in Alameda, Sacramento, and Riverside/San Bernardino Counties were the most frequent users of nucleic acid hybridization probes.

Additional HMO and Medical Group Recommendations

HMOs and medical groups were asked about other STD recommendations in addition to CDC and other existing guidelines. One-third of HMOs (33 percent) and 27 percent of medical groups reported recommending annual chlamydia screening of all women over 25 years of age even though this practice is not recommended by CDC or other guidelines examined in this study. Also, 58 percent of HMOs and 66 percent of medical groups recommended chlamydia screening for women age 25 and over, if they requested the test.

No HMOs and only three medical groups recommended that PCPs place a follow up call to patients to check if medication was taken. Almost one-fourth (23 percent) of PCPs reported consistently

EXHIBIT 12. PRIMARY CARE PROVIDERS' MOST FREQUENTLY ORDERED CHLAMYDIA DIAGNOSTIC TEST BY VOLUME OF MEDI-CAL PATIENTS IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

PCPs with a high volume of Medi-Cal patients more often ordered nucleic acid amplification technology tests than PCPs with a low or medium volume of Medi-Cal patients.

PCPs with a low volume of Medi-Cal patients more often ordered nucleic acid hybridization probe tests than PCPs with a medium volume of Medi-Cal patients.

Prepared by UCLA Center for Health Policy Research

conducting this activity. Seventy-two percent of HMOs and 61 percent of medical groups recommended that PCPs report positive chlamydia tests to the local public health department. More than three-fourths of PCPs (76 percent) indicated that they or their staff reported positive tests to the health department. Twenty percent reported that the lab conducted this activity and the remainder of PCPs either named others or did not know who reported positive chlamydia tests to the health department.

More than half of PCPs (58 percent) reported that they scheduled a same day appointment for patients reporting STD symptoms. A closer examination of waiting time by PCP specialty revealed that obstetrician/gynecologists least often reported giving same day appointments to patients with STD symptoms, while the other PCPs more often reported consistently giving same day appointments (62 percent of obstetrician/gynecologists versus 79 percent of family/general practitioners, 81 percent of internists, and 79 percent of pediatricians).

EXHIBIT 13. SOURCE OF STD GUIDELINES AND DISSEMINATION METHODS OF GUIDELINES AMONG HMOS, MEDICAL GROUPS, AND PRIMARY CARE PROVIDERS IN MEDI-CAL MANAGED CARE

	HMO RECOMMENDS		MEDICAL GROUP RECOMMENDS		PRIMARY CARE PROVIDER
	NUMBER	PERCENT	NUMBER	PERCENT	PERCENT
SOURCE OF STD GUIDELINES					
NONE	4/20	20%	8/48	17%	8%
CENTERS FOR DISEASE CONTROL (CDC) ONLY OR IN COMBINATION WITH OTHERS	9/20	45%	11/48	23%	42%
HMO OR MEDICAL GROUP ONLY	-	-	-	-	3%
ALL OTHER SOURCES*	4/20	20%	13/48	27%	42%
SOURCE UNKNOWN	3/20	15%	16/48	33%	6%
DISSEMINATION METHOD OF STD GUIDELINES**					
TRAINING SEMINAR OR SPECIAL EVENT	5/16	31%	13/30	43%	12%
MAIL	7/16	44%	1/30	3%	67%
OTHER	2/16	13%	15/30	50%	11%
DON'T KNOW OR NONE	2/17	13%	1/30	3%	10%

Note: Percentages may not add up to 100% due to rounding error.

* HMO and medical groups were only asked about guidelines from U.S. Preventive Services Task Force (USPSTF) in addition to CDC.

** HMOs and medical groups were asked about their methods of disseminations to PCPs, while PCPs were asked about how such guidelines were diseminated to them.

Prepared by UCLA Center for Health Policy Research

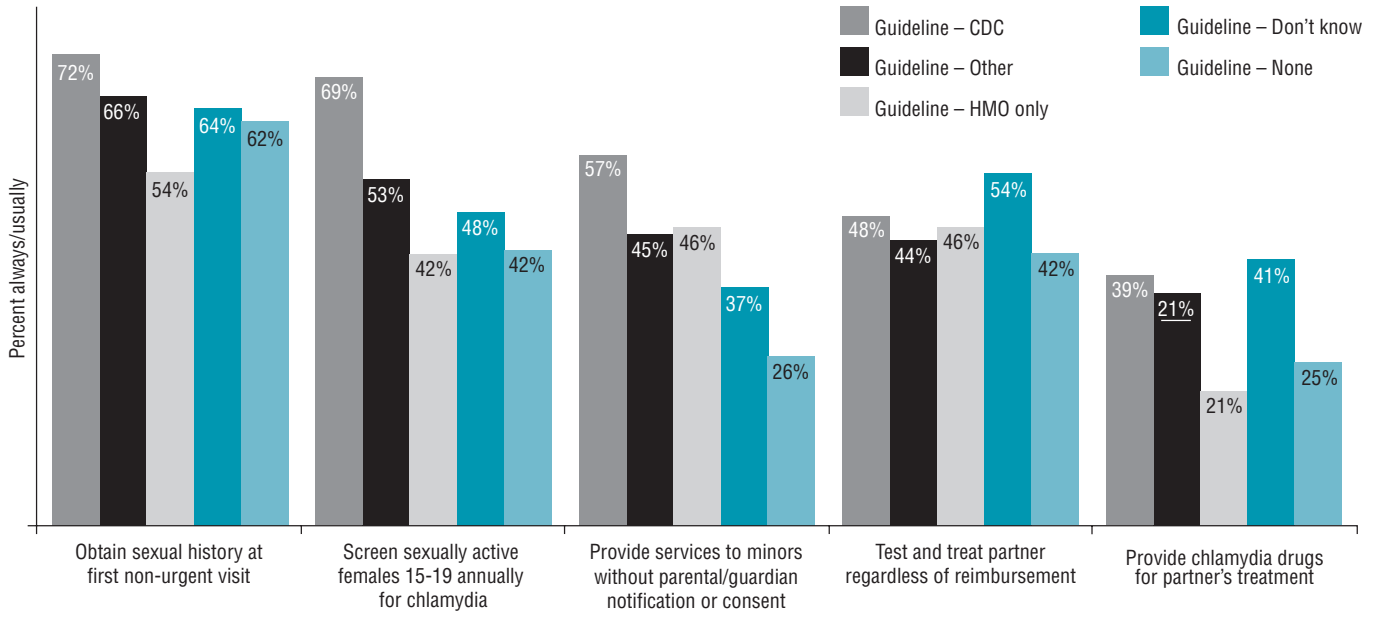
Source of STD Guidelines and Guideline Dissemination Methods

Four HMOs (20 percent) and eight medical groups (17 percent) reported that they did not use or adapt any STD guidelines. Similarly, a small percentage of PCPs (8 percent) reported not having any STD guidelines for referral. Nine HMOs (45 percent) and eleven medical groups (23 percent) reported using or adapting either CDC or CDC and USPSTF guidelines. Forty-two percent of PCPs reported they had either CDC guidelines only or had CDC and other guidelines. Among other sources, 20 percent of HMOs and 27 percent of medical groups had USPSTF guidelines.

Forty-five percent of PCPs reported other guidelines, including 12 percent from the public health department only, 3 percent from the HMO or medical group only, and 30 percent single or multiple other sources (Exhibit 13). Additional analysis of PCP STD practices and the source of STD guidelines revealed that PCPs who consistently obtained a sexual history, screened sexually active females age 15-19, or treated minors without parental consent most often used CDC guidelines (Exhibit 14).

When HMOs and medical groups were asked about the dissemination methods of their STD guidelines to PCPs, 31 percent of HMOs and 43 percent of medical

EXHIBIT 14.CONSISTENT (ALWAYS/USUALLY) PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES BY PRIMARY CARE PROVIDERS' SOURCE OF STD GUIDELINES IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

PCPs who used CDC guidelines more often obtained a sexual history at the first non-urgent visit than PCPs who used other guidelines.

PCPs who used CDC guidelines more often screened sexually active females 15-19 for chlamydia than PCPs who did not use any guidelines, did not know which guidelines they used or used other guidelines.

PCPs who did not use any guidelines less often provided services to minors without parental/guardian notification or consent than PCPs who used CDC or other guidelines. PCPs who used CDC guidelines more often provided services to minors without parental/guardian notification or consent than PCPs who did not know which guidelines they used or used other guidelines.

PCPs who did not use any guidelines less often provided chlamydia drugs for partner's treatment than those who used CDC guidelines.

Note: *Underlined italic* estimates are not reliable.

Prepared by UCLA Center for Health Policy Research

groups reported that they organized conferences, training seminars, or special events (Exhibit 13). However, only 12 percent of PCPs reported having received their guidelines at such venues. Forty-four percent of HMOs and one medical group reported mailing guidelines to PCPs, yet 67 percent of PCPs reported having received their guidelines in the mail.

Analysis of the PCP STD practices and dissemination methods of STD guidelines revealed that PCPs who had received their guidelines through attending a conference or an event reported consistently screening sexually active females aged 15 to 19 years more often than those who received this guideline through the mail. In many cases, PCPs who had received their guidelines through channels other than the mail or events followed guidelines less often.

In comparison to the recommendation of STD guidelines, most HMOs and medical groups reported recommending other disease management guidelines, and most PCPs reported receiving such guidelines from their affiliated HMOs and medical groups. Such guidelines were in regard to management of chronic diseases such as asthma (HMO recommendation: 100 percent, medical group recommendation: 98 percent, PCPs receiving: 94 percent), or diabetes (HMO recommendation: 95 percent, medical group recommendation: 94 percent, PCPs receiving: 94 percent).

Implementation of Annual Chlamydia Screening

Thirteen HMOs (68 percent) reported implementation of annual chlamydia screening guidelines, yet 38 percent of these HMOs reported screening only 25 percent or fewer of their sexually active females 15 to 25 years of age (Exhibit 15). The percentage of HMO members reportedly screened ranged from 5 percent to 80 percent in 2001, with 30 percent as the median percentage of members screened. Of the six HMOs that had not implemented this routine screening,

EXHIBIT 15. IMPLEMENTATION OF ANNUAL CHLAMYDIA SCREENING GUIDELINES BY HMOS AND MEDICAL GROUPS IN MEDI-CAL MANAGED CARE

	HMO		MEDICAL GROUP	
	NUMBER	PERCENT	NUMBER	PERCENT
HMO/MEDICAL GROUP HAS IMPLEMENTED	13/19	68%	23/39	59%
PERCENTAGE OF SEXUALLY ACTIVE FEMALES AGE 15-25 SCREENED LAST YEAR				
25% OR LESS	5/13	38%	14/27	52%
26% - 50%	6/13	46%	6/27	22%
51% OR MORE	2/13	15%	7/27	26%

Note: Percentages may not add up to 100% due to rounding error.

Prepared by UCLA Center for Health Policy Research

five (83 percent) reported that they were either in progress of implementing or planned to begin the process within the next year. As reasons for lack of implementation, one HMO reported difficulties in implementation, and another reported low priority.

HMOs were asked to recommend ways to increase chlamydia screening in their organizations. Recommendations most frequently included physician education and additional physician financial incentives. Patient education was also recommended, while a few HMOs mentioned development or enforcement of internal HMO guidelines or quality improvement efforts to increase screening.

Similarly, 23 of the medical groups (59 percent) reported implementation of the annual chlamydia screening, yet 52 percent of these groups reported screening only 25 percent or fewer of their sexually active females 15 to 25 years of age (Exhibit 15). These medical groups reported having screened as low as 5 percent to as high as 100 percent of their members in 2001, with 25 percent as the median percentage. Of the medical groups who reported not having implemented the chlamydia screening measure (41 percent), three reported that this activity was in progress. The remaining eight medical groups mentioned, insufficient infrastructure, low priority, or the very low percentage of cases identified during screening as reasons for lack of implementation.

Medical groups were asked to recommend ways to increase chlamydia screening in their organizations. Similar to HMOs, medical groups most frequently recommended physician education and physician financial incentives. Monitoring of physicians through chart audits, screening feedback – or other monitoring methods – were also frequently recommended.

EXHIBIT 16. PATIENT EDUCATION AND PCP TRAINING AND MONITORING OF STD CARE BY HMOS AND MEDICAL GROUPS IN MEDI-CAL MANAGED CARE

	HMO		MEDICAL GROUP	
	NUMBER	PERCENT	NUMBER	PERCENT
DISSEMINATION METHODS OF PATIENT EDUCATION*				
DISSEMINATES STD PREVENTION EDUCATIONAL MATERIALS TO ENROLLEES	15/18	49%	37/48	77%
DISSEMINATED BY BROCHURES IN DOCTORS' OFFICES	8/15	53%	35/37	95%
DISSEMINATED BY DIRECT MAIL TO PATIENTS	11/15	73%	12/37	32%
DISSEMINATED BY WEB SITE	7/15	47%	6/37	16%
DISSEMINATED BY OFFICE STAFF PROVIDING EDUCATION/COUNSELING	10/15	67%	21/37	57%
DISSEMINATED BY HEALTH INFORMATION PHONE LINE	8/15	53%	15/37	41%
DISSEMINATED BY HEALTH OR WELLNESS CLASSES	8/15	53%	14/37	38%
NUMBER OF DISSEMINATION METHODS USED				
1 TO 3 METHODS	7/15	47%	25/37	68%
4 TO 6 METHODS	8/15	53%	12/37	32%
PATIENT EDUCATION AND PCP TRAINING				
PROVIDES SCREENING AND PREVENTION PROGRAMS TARGETING ADOLESCENTS	5/17	29%	7/43	16%
PROVIDED STD TRAINING OR EDUCATION FOR PCPS	8/19	42%	4/41	10%

*Dissemination methods overlap and do not add up to 100%.

Prepared by UCLA Center for Health Policy Research

Suggestions for implementation of guidelines or availability of a single set of guidelines rather than multiple guidelines from various sources were the next set of frequent recommendations.

Patient Education

A variety of STD patient education activities were reported by HMOs and medical groups. Forty-nine percent of HMOs and 77 percent of medical groups reported disseminating STD prevention educational materials to their enrollees (Exhibit 16). The most commonly reported method of dissemination by HMOs was direct mail (73 percent) and by medical groups was dissemination of brochures in PCP offices (95 percent). If they disseminated patient STD education materials, more than half of HMOs (53 percent) and almost one-third of medical groups (32 percent) used more than four methods of dissemination.

EXHIBIT 17. STD TRAINING, HMO AND MEDICAL GROUP MONITORING, AND PATIENT STD EDUCATION METHODS OF PRIMARY CARE PROVIDERS IN MEDI-CAL MANAGED CARE

PATIENT STD EDUCATION METHODS	
DOCTOR ONLY	30%
DOCTOR OR STAFF WITH GENERAL BROCHURE, NEWSLETTER, WEB, OR OTHER TECHNIQUE	28%
DOCTOR OR STAFF WITH DISEASE SPECIFIC BROCHURE	24%
GENERAL BROCHURE, NEWSLETTER, WEB, OR OTHER TECHNIQUE ONLY	14%
DISEASE SPECIFIC BROCHURE ONLY	5%
RECEIVED STD TRAINING IN THE PAST TWO YEARS	47%
SOURCE OF STD TRAINING/CONTINUING MEDICAL EDUCATION IN THE PAST TWO YEARS	
OTHER	23%
HOSPITAL OR UNIVERSITY	18%
PRIMARY MEDICINE TODAY CONFERENCE	18%
HMO	8%
PROFESSIONAL ORGANIZATION	7%
MULTIPLE SOURCES	7%
COUNTY OR STATE HEALTH DEPARTMENT	6%
CONFERENCE OR SEMINAR	5%
PHARMACEUTICAL COMPANY	5%
FAMILY PACT	3%
HMO OR MEDICAL GROUP PROVIDES STD SCREENING FEEDBACK	
NEVER	79%
YES, IN THE PAST YEAR	10%
YES, IN THE PAST TWO YEARS	8%
YES, MORE THAN TWO YEARS AGO	3%

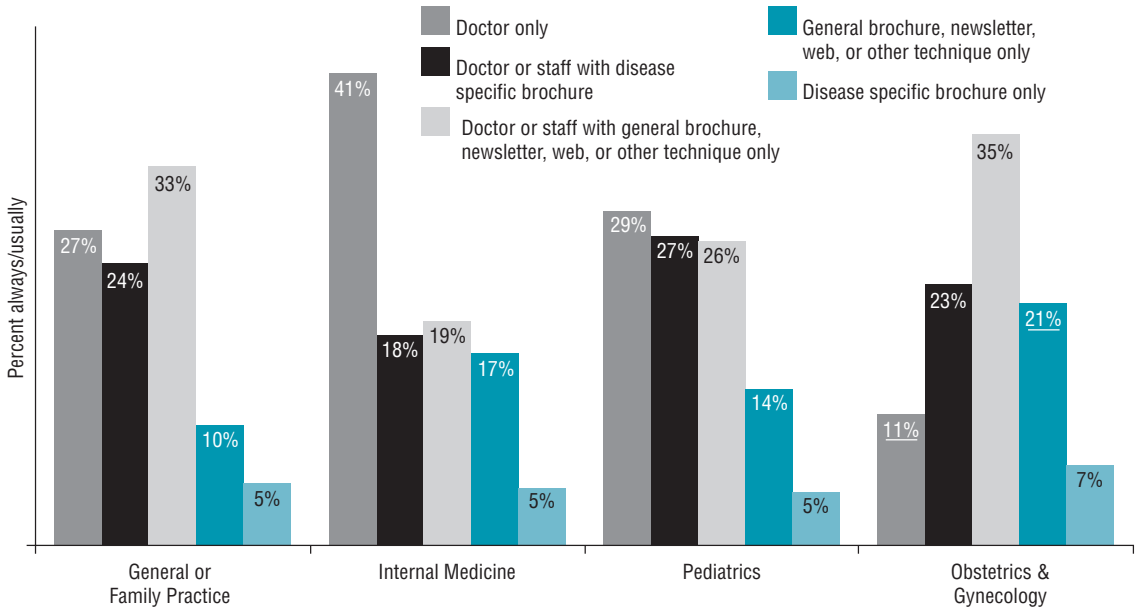
Note: Percentages may not add up to 100% due to rounding error.

Prepared by UCLA Center for Health Policy Research

HMOs and medical groups were asked if they developed special programs for their high-risk STD members, such as adolescents. Less than one-third of HMOs (29 percent) and 16 percent of medical groups reported having specific screening and prevention programs that targeted adolescents. Among HMOs, the screening and prevention programs included media campaigns, community outreach, clinical services provided at community sites, newsletters, or a teen website. Among medical groups, the types of programs mentioned included media campaigns, community outreach, or clinical services provided at community sites.

About one-fourth of PCPs (24 percent) used a disease-specific brochure in conjunction with education by the PCP or staff (Exhibit 17). Twenty-eight percent of PCPs reported that they or their staff educated their patients regarding STDs, along with using patient information tools. Less than one-third of PCPs (30 percent)

EXHIBIT 18. PRIMARY CARE PROVIDERS' PATIENT EDUCATION METHOD BY SPECIALTY IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

Internists more often educated the patient themselves than family or general practitioners, pediatricians or obstetrician/gynecologists. Pediatricians and family or general practitioners more often educated the patients themselves than obstetrician/gynecologists.

Obstetrician/gynecologists and pediatricians more often educated the patients either in person or through their staff along with a disease specific brochure than internists.

Pediatricians, family or general practitioners and obstetrician/gynecologists more often educated the patients themselves or through their staff in combination with a general brochure, newsletter, web, or other technique than internists.

Family or general practitioners less often than internists or obstetrician/gynecologists used only general brochures, newsletter, web, or other technique to educate their patients.

Note: *Underlined italic* estimates are not reliable.

Prepared by UCLA Center for Health Policy Research

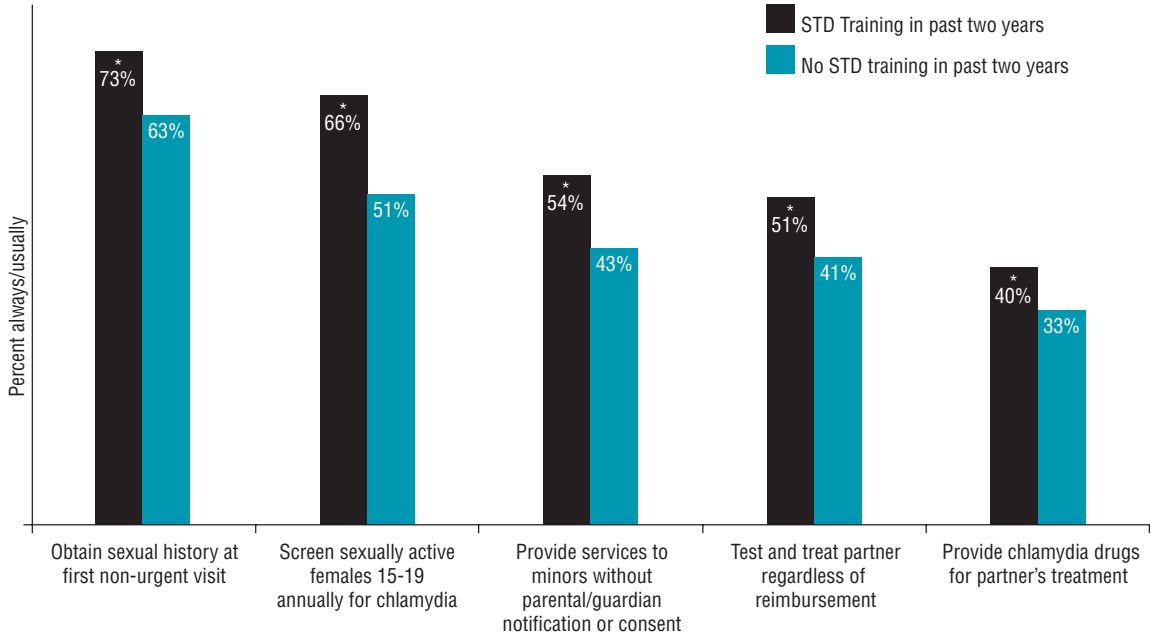
educated patients regarding STDs personally without the use of any tools. Nineteen percent gave patient-education materials to patients without any education by staff.

Examining the patient education methods of PCPs by their specialty revealed that the predominant patient-education method among internists (41 percent) and pediatricians (29 percent) was verbal education by the doctor, while general and family practitioners (33 percent) and obstetrician/gynecologist physicians (35 percent) primarily used a general brochure, newsletter, or website, along with the information provided by the doctor or staff (Exhibit 18).

Primary Care Provider STD Training and Monitoring

Forty-two percent of HMOs (8 out of 19) and four medical groups (10 percent) reported providing STD clinical management and prevention training or education to their PCPs (Exhibit 16). Less than half of PCPs (47 percent) had received STD training in the previous two years (Exhibit 17). When asked whether they evaluated the following of STD guidelines by their PCPs, eight of the HMOs (40 percent) and six of the medical groups (13 percent) reported that they did not. Of those who did evaluate their PCPs' following of STD guidelines, only eight of the HMOs (30 percent) and 21 of the medical groups (44 percent) reported using either chart audits or record reviews, or both.

EXHIBIT 19. CONSISTENT (ALWAYS/USUALLY) PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES BY PRIMARY CARE PROVIDERS' STD TRAINING IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

* PCPs who received STD training in the past two years more often followed all guidelines specified above than PCPs with no STD training in the past two years

Prepared by UCLA Center for Health Policy Research

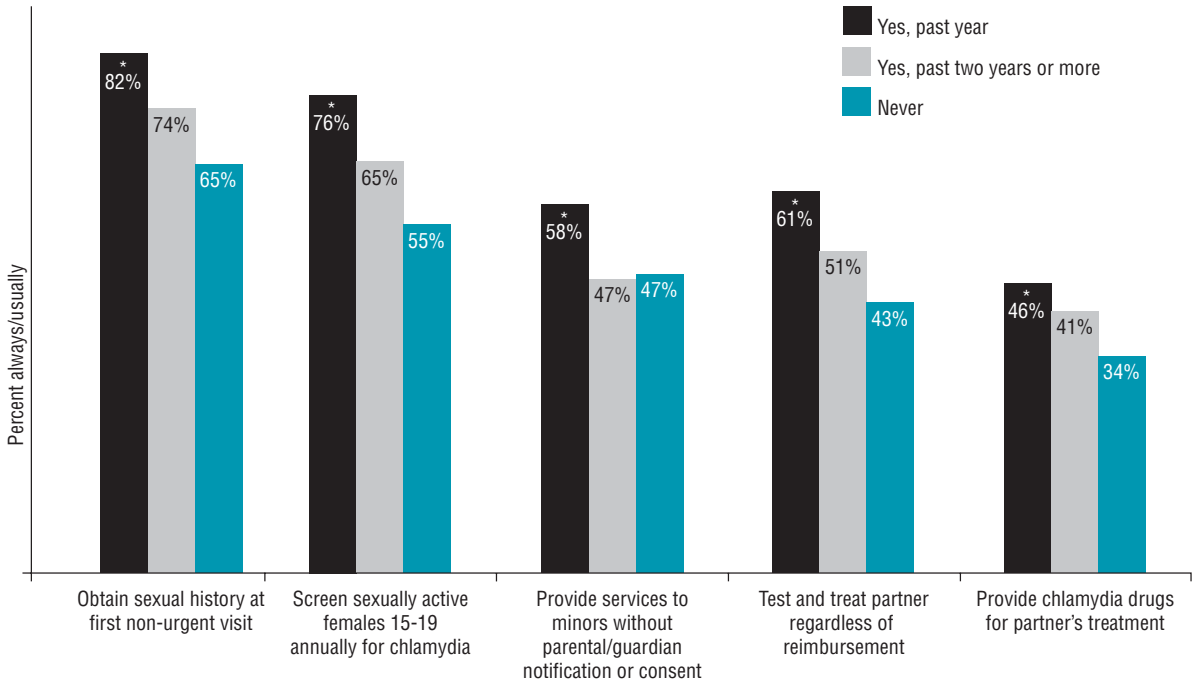
Evaluating the association between PCP STD training and PCP STD practice revealed that PCPs who had received STD training in the previous two years more frequently followed the screening, clinical, and partner management STD guidelines that had been studied (Exhibit 19).

Among STD-trained PCPs, almost one-fourth of PCPs (23 percent) reported receiving the training through conferences and seminars, 18 percent from hospitals and universities, and 8 percent through HMOs. Of those PCPs who indicated conference and seminar training, Primary Medicine Today (PriMed, a university-based conference) was by far the most frequently mentioned conference (Exhibit 17).

Only three HMOs and one medical group reported providing feedback to PCPs on their STD screening practices. Consistent with this finding, 79 percent of PCPs reported never receiving feedback on their STD screening by an HMO or a medical group. Among the remainder, 18 percent had received feedback in the previous two years (Exhibit 17).

PCPs who had reported receiving feedback about their STD screening practices from their contracted Medi-Cal HMOs or medical groups within the previous year most frequently followed STD guidelines. Those who never received such feedback followed the guidelines least frequently (Exhibit 20).

EXHIBIT 20. CONSISTENT (ALWAYS/USUALLY) PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES BY PRIMARY CARE PROVIDER HMO'S FEEDBACK ON STD SCREENING IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

* PCPs who received feedback from HMOs or medical groups on their STD screening practices in the past year more often followed all specified guidelines than PCPs who never received feedback.

Prepared by UCLA Center for Health Policy Research

Availability of Out-of-Plan STD Care to Medi-Cal HMO Enrollees

The CDHS Medi-Cal Managed Care Division's health policy requires that Medi-Cal HMOs inform their enrollees that they can receive confidential STD care by providers outside their HMO network and that these services will be reimbursed by the HMO. The majority of HMOs (89 percent) reported informing the enrollees that they can receive reimbursed STD services by other providers, or out-of-plan providers. The same percentage of HMOs (89 percent) also reported reimbursing out-of-plan providers for testing and treatment of chlamydia and gonorrhea. More than half of HMOs (53 percent) had working and contractual relationships with outside providers, such as public health departments, family planning clinics, and community health clinics, to provide reimbursement for out-of-plan STD care. More than one-third (35 percent) had a relationship with only one of these types of outside providers. Only two HMOs (12 percent) did not have any such relationships or contracts.

HMO Relationships with Counties and Public Health Departments

Most HMOs (80 percent) reported that the local public health department offered training/technical assistance to their organization in regard to STD clinical management and prevention. In addition, the cooperation between the HMOs and their local public health departments included sharing of epidemiological data (57 percent), community outreach and education (60 percent), and reporting of positive test results (81 percent).

The memorandum of understanding (MOU) regarding STD content, between the HMOs and their local public health departments was used by 64 percent of HMOs. If used, HMOs were also asked how these MOUs were used. Responses included: regular meetings to review and revise member benefits, collaborations on education/outreach, coordination of referrals, and information and strategy sharing.

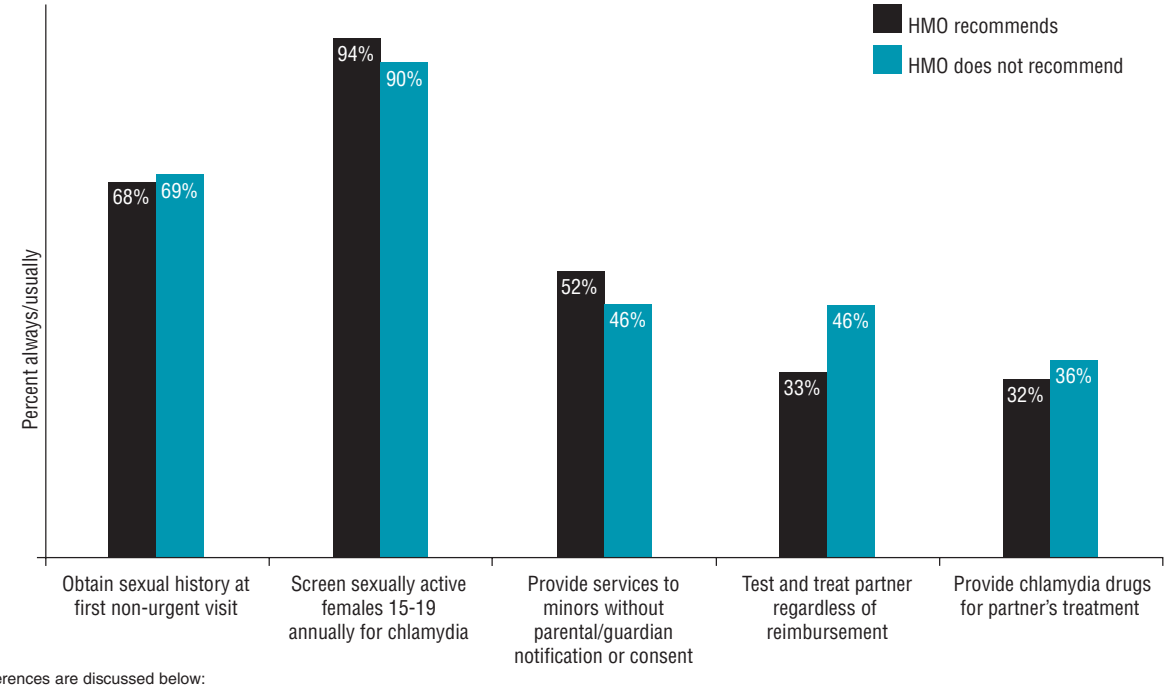
4. *Concordance of Primary Care Providers' STD Practices with STD Guideline Recommendations of Affiliated Medi-Cal HMOs and Medical Groups*

The examination of the association between the HMO – or the medical group STD guidelines – and the PCP practice is complicated, since many PCPs contract with more than one Medi-Cal HMO or medical group. Furthermore, each PCP may contract with non-Medi-Cal commercial HMOs and other medical groups not identified in this study. A limited examination of the association between the HMO or medical group guideline recommendations and PCP practice is presented here by comparing the STD recommendations of the HMOs or medical groups that the PCP identified as the organizations providing the largest number of Medi-Cal patients to the PCP's practice. Due to the small sample size of PCPs with HMO and medical group STD recommendations, many of the results provided in the following sections were not statistically significant. Only differences significant at probability values less than 0.05 are mentioned.

We first compared the consistency between HMOs recommendations and PCP practices without taking medical group recommendations into consideration. This comparison revealed that PCPs more often (94 percent) consistently screen sexually active females 15 to 19 years of age annually for chlamydia when the affiliated HMO recommended it than when the HMO did not actively recommend this guideline (90 percent) (Exhibit 21). The only other significant association between the HMO recommendation and the following of STD guidelines by PCPs was the provision of counseling after taking sexual history (62 percent with an HMO recommendation and 53 percent without an HMO recommendation).

Comparison of recommendations regarding medications and tests did not reveal any significant

EXHIBIT 21. RECOMMENDATION OF STD GUIDELINES BY HMOS AND CONSISTENT (ALWAYS/USUALLY) PRIMARY CARE PROVIDERS' PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

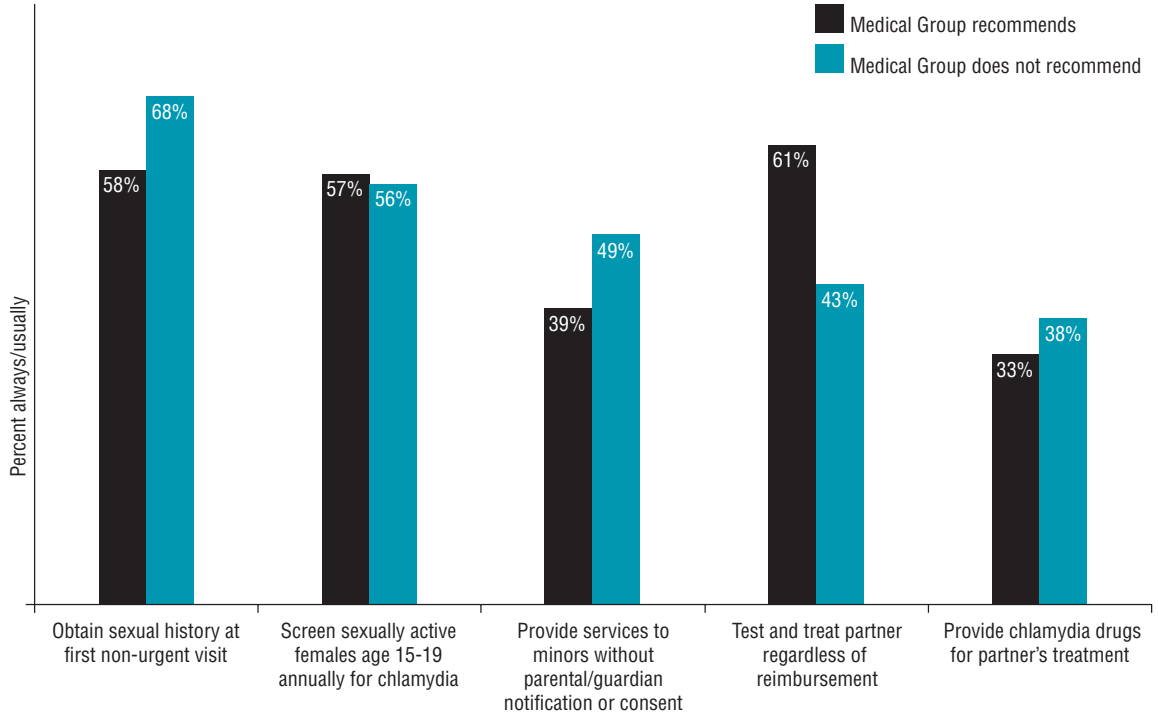
PCPs more often screened sexually active females age 15-19 for chlamydia when the affiliated HMO recommended it than when the affiliated HMO did not actively recommend this guideline.

Prepared by UCLA Center for Health Policy Research

differences in the association between HMOs' reported recommendations and the PCP's prescription of azithromycin for chlamydia, or use of NAATs. Furthermore, no significant association was found between elements of the HMO formulary, such as indicating the relative cost or requiring prior authorization of azithromycin, and frequent prescription of this medication by the PCP. An examination of the potential impact of HMO payment method to labs for chlamydia tests on PCP practices revealed no significant association with the PCP's use of this test, possibly due to the very small sample size. However, when PCPs were questioned about which tests their affiliated Medi-Cal HMOs or medical groups promoted, 85 percent reported there were no recommendations. Among these PCPs, 61 percent had reported in concordance with the HMOs that provided the largest share of their Medi-Cal patients. For the remainder of these PCPs, their HMOs had reported recommending NAAT only (19 percent), nucleic acid hybridization probe only (6 percent), or a combination of tests.

We also compared the association between the medical group STD recommendations and the PCP's practice, and found only one significant difference, which was higher frequency of consistent testing and treating partners regardless of reimbursement by PCPs (61 percent) when the medical group recommended it, as opposed to when the medical group did not actively recommend it (43 percent) (Exhibit 22).

EXHIBIT 22. RECOMMENDATION OF STD GUIDELINES BY MEDICAL GROUPS AND CONSISTENT (ALWAYS/USUALLY) PRIMARY CARE PROVIDERS' PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES IN MEDI-CAL MANAGED CARE



Significant differences are discussed below:

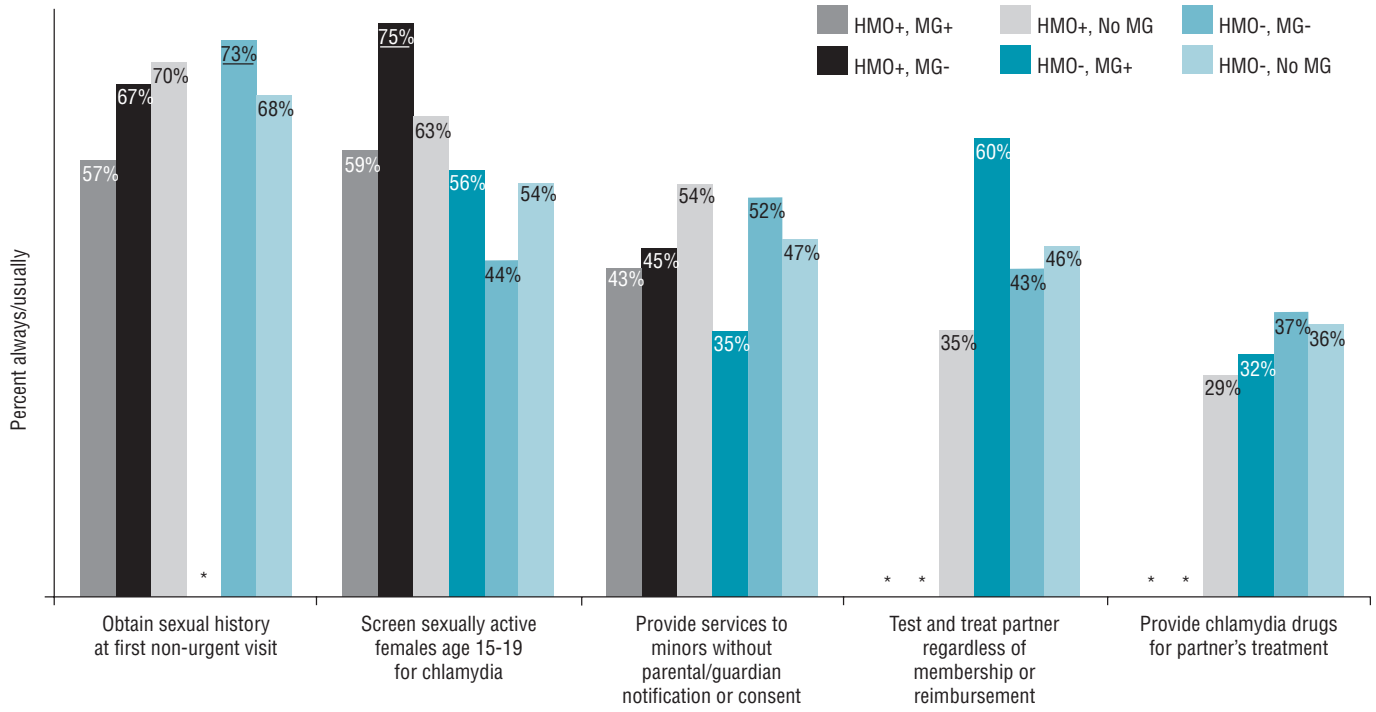
PCPs more often tested and treated the partner regardless of membership or reimbursement when the affiliated medical group recommended it than when the affiliated medical group did not actively recommend this guideline.

Prepared by UCLA Center for Health Policy Research

Many PCPs did not report a medical group affiliation or did not identify their affiliated medical groups. We examined the joint association of HMO and medical group with PCP practice. We separated the PCPs into the following groups: those with a specific HMO and medical group recommendation (HMO+, MG+), those with a specific HMO recommendation but without a specific medical group recommendation (HMO+, MG-), those with a specific HMO recommendation and no medical group data (HMO+, no MG), those without a specific HMO recommendation but with a medical group recommendation (HMO-, MG+), those without a specific HMO or medical group recommendation (HMO-, MG-), and those without a specific HMO recommendation and no medical group data (HMO-, no MG).

The association between the HMO and medical group STD recommendations and the PCP practice was inconsistent and not statistically significant (Exhibit 23). The joint existence of HMO and medical group guidelines was not associated with a higher frequency of a given PCP practice. However, PCPs without a specific HMO and medical group recommendation regarding annual screening of young females seemed to perform this task less frequently, suggesting a potential association that may be significant if larger sample sizes were available.

EXHIBIT 23. RECOMMENDATION OF STD GUIDELINES BY HMOS AND MEDICAL GROUPS AND CONSISTENT (ALWAYS/USUALLY) PRIMARY CARE PROVIDERS' PRACTICE OF STD CONTROL AND PREVENTION GUIDELINES IN MEDI-CAL MANAGED CARE



Note: *Underlined italic* estimates are not reliable.

* Sample n is less than five.

Prepared by UCLA Center for Health Policy Research

5. *Predictors of Primary Care Providers' STD Practices*

Multivariate analyses were performed to identify the independent impact of factors (such as PCP personal and business characteristics, STD training, and availability of STD guidelines) on PCPs' STD practices. Models were developed for the following practices: obtaining sexual history at the first non-urgent visit; annual chlamydia screening of sexually active females aged 15-19 years; providing chlamydia medications for partner's treatment; testing and treating the partner regardless of reimbursement; and provision of services to minors regardless of parental consent. Results showed that PCPs who were female, or who were obstetrician/gynecologists, were significantly more likely than were males or family and general practitioners to report consistently obtaining sexual history on the first non-urgent visit. Results also showed that those PCPs who had STD training in the past or who received feedback from HMOs on their STD screening practices were significantly more likely than those without STD training or those with no feedback to report consistently obtaining sexual history on the first non-urgent visit. Alternatively, PCPs who had less than ten percent Medi-Cal patients in their practice were less likely than those with a larger volume of Medi-Cal patients to report consistently following this practice.

Examining consistent annual chlamydia screening of sexually active females aged 15 to 19 years revealed additional predictors of screening. PCPs who were female, who were obstetrician/gynecologists (compared to family and general practitioners) who had been in practice less than ten years, had any STD training, had CDC guidelines, or had feedback from HMOs on their STD screening practices were significantly more likely to report consistently screening sexually active females 15 to 19 years of age annually for chlamydia. On the other hand, pediatricians, internists, solo PCPs, or PCPs with less than 25 percent Medi-Cal patients in their practice were significantly less likely to report following this practice.

The practice of consistently testing and treating the partner regardless of enrollment or reimbursement was more likely to be reported by PCPs who had received feedback from HMOs on their STD screening practices, compared to those who had not received any feedback. However, pediatricians (compared to family and general practitioners) or PCPs with less than 50 percent Medi-Cal patients in their practice were significantly less likely to follow this practice. Consistently providing medication to the patient for partner's treatment was less likely to be reported by pediatricians than by family and general practitioners.

Consistent provision of services to minors regardless of parental consent or notification was reportedly more likely by PCPs who had previous STD training or those who had CDC guidelines, compared to those who did not. On the other hand, PCPs with less than 50 percent Medi-Cal patients in their practice, or who were internists (compared to family and general practitioners) or solo PCPs were significantly less likely to consistently provide this service.

In these analyses, specialty emerged as a significant predictor for all five of the physicians' STD practices modeled. Volume of Medi-Cal patients in PCPs' practice emerged as a significant predictor for four of the physicians' STD practices, all but the practice of providing chlamydia drugs for partner's treatment.

STD training in the previous two years emerged as a significant predictor for obtaining a sexual history at first non-urgent visit, annual chlamydia screening of sexually active females aged 15 to19 years, and providing services to minors without parental/guardian notification or consent. Feedback, from the HMO on STD screening emerged as a significant predictor for obtaining a sexual history at first non-urgent visit, annual chlamydia screening of sexually active females aged 15 to 19 years, and testing and treating the partner regardless of reimbursement. PCP gender emerged as a significant predictor for obtaining a sexual history at first non-urgent visit and annual chlamydia screening of sexually active females aged 15 to 19 years. Solo practice and availability of CDC guidelines emerged as significant predictors for annual chlamydia screening of sexually active females age 15 to 19 years, and providing services to minors without parental/guardian notification or consent.

6. Conclusions and Recommendations

The findings and recommendations from this study can be used to refine ongoing chlamydia quality improvement initiatives in Medi-Cal managed care plans, although this data comes from a perion prior to the CDHS Medi-Cal Managed Care Division's implementation of a statewide Chlamydia Quality Initiative.

Conclusion 1. Medi-Cal HMOs consistently had diabetes and asthma guidelines, but inconsistently recommended chlamydia and gonorrhea screening, treatment and prevention guidelines.

Recommendation. Medi-Cal HMOs should have explicit chlamydia screening and treatment recommendations. Existing guidelines developed by CDC and the CCAC are readily available for this purpose.

Conclusion 2. More than two-thirds of HMOs had implemented general recommendations regarding annual chlamydia screening of sexually active females aged 15 to 25 years. However, the percentage of enrollees who were screened in those HMOs was less than one-fourth in half the HMOs. Similarly, about 60 percent of medical groups that are under contract to Medi-Cal had implemented general recommendations regarding annual screening of chlamydia, consistent with HEDIS. Among those, the percentage of enrollees who were screened was less than one-fourth in half the medical groups.

Recommendation. The current rates of enrollee screening in Medi-Cal HMOs indicate the level of effort that may be needed by HMOs to increase chlamydia screening. Successful increase of chlamydia screening may also depend on participation of both Medi-Cal HMOs and medical groups. To improve chlamydia screening rates among contracted PCPs, HMOs and medical groups should re-examine their PCP STD education efforts and the adequacy of their financial reimbursement levels in relation to chlamydia screening. Additional financial incentives such as bonuses may need to be considered. Increasing chlamydia screening within these organizations can also be achieved through incorporating chlamydia—related interventions within existing quality improvement activities.

Conclusion 3. PCP's adherence to STD guidelines that require the counseling of patients or presumptive treatment was higher than the adherence to guidelines regarding partner-related practices, such as testing the partner or providing chlamydia medications for the partner's treatment.

Recommendation. To improve PCP adherence to essential partner-related STD practices, such as providing chlamydia medications to partners, HMOs should consider using a combination of guideline recommendations, adequate reimbursement, and monitoring efforts. In addition, partnership with public health departments or other organizations that can provide medications for partners or treat them could be developed, and PCPs can be informed of these alternatives.

Conclusion 4. Descriptive analysis identified characteristics of PCPs who adhered to STD guidelines and multivariate analysis confirmed the independent impact of each characteristic on adherence. Internists and pediatricians seemingly lagged behind obstetrician/gynecologists and family and general practitioners in following some STD guidelines. Solo-practice PCPs seemed to lag behind group or clinic-based PCPs in annual chlamydia screening.

Female PCPs adhered to STD guidelines better than males PCPs. PCPs with a lower volume of Medi-Cal patients did not adhere to STD guidelines as well as did those with a higher volume of Medi-Cal patients. In addition, PCPs who had no recent STD training, or PCPs who received no feedback from their HMO or medical group on their STD practices also lagged behind those who had recent STD training and those who received feedback from their HMO or medical group.

Recommendation. Education campaigns should target all PCPs but specifically focus on providers who are less likely to adhere to STD guidelines, such as providers specializing in fields other than obstetrics/gynecology, solo practitioners, male PCPs, PCPs who received no feedback on their STD practices from their HMO or medical group and PCPs with a smaller volume of Medi-Cal patients.

Conclusion 5. PCPs' delivery of STD care was enhanced through a number of mechanisms, including training, adoption of STD guidelines, and providing feedback on STD practices. The analysis showed that STD training is an effective measure in improving STD guideline adherence among PCPs. PCPs who adopted CDC STD guidelines were more compliant than those who had adopted other types of guidelines. HMO feedback on PCPs' STD screening practices increased their compliance and appeared to be an effective mechanism in improving adherence to STD guidelines.

Recommendation. The implementation of multifaceted interventions is essential in improving adherence to STD guidelines. Improving the PCPs' adherence to STD guidelines can be achieved by providing CDC and CCAC STD guidelines to PCPs, as well as organizing training seminars to further distribute these guidelines. Medi-Cal HMOs should collect PCPs' specific screening data and establish mechanisms for provider feedback. Feedback on STD screening rates may provide the opportunity for HMOs to identify PCPs with low rates of chlamydia screening. Collectively, these efforts should be integrated into the quality improvement activities of Medi-Cal HMOs to enhance the delivery of STD services.

UCLA CENTER FOR HEALTH POLICY RESEARCH

10960 WILSHIRE BLVD., SUITE 1550
LOS ANGELES, CALIFORNIA 90024
PHONE: (310) 794-0909
FAX: (310) 794-2686
chpr@ucla.edu
www.healthpolicy.ucla.edu