

Comparing Quality of Care for Sexually Transmitted Diseases in Specialized and General Clinics

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SYNOPSIS

Objective. The objective of this study was to compare quality of care for patients with sexually transmitted diseases (STDs) in specialized vs. general clinics.

Methods. The authors conducted a retrospective chart review evaluating compliance with a set of STD-related process of care quality indicators for adult patients seen in six Los Angeles County clinics (two STD specialized clinics and four general medical clinics).

Results. Thirty-two quality indicators were selected using a modified Delphi process. From March 1, 1996, to June 31, 1996, there were 205 STD-related visits to the two specialized STD clinics and 373 STD-related visits to the four general medical clinics. For patients with "classic" STDs (those for which sexual contact is the primary means of transmission), STD clinics achieved greater compliance than general medical clinics on 14 quality indicators, while general medical clinics achieved greater compliance on 4 indicators.

Conclusion. STD clinics provide better overall STD care than general medical clinics. Possible explanations include differences in clinician experience with STD patients and greater use of standardized protocol sheets.

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People with sexually transmitted diseases (STDs) who live in low-income neighborhoods often receive care at county clinics and hospitals. Recently, there has been a widespread shift of public STD care from specialty clinics to primary care settings. This shift parallels a shift in responsibilities for personal medical services from specialists to primary care providers. In October 1995, a budget deficit prompted the County of Los Angeles Department of Health Services (DHS) to restructure its outpatient health care delivery system. The result was the closure of 61% of Los Angeles County's STD clinics (reducing the number of clinics from 28 to 11), and 18% of the general medical clinics (reducing the number from 17 to 14), thus shifting the balance of STD services in favor of general medical clinics.

The effect of this shift on the quality of STD care is unknown. There is some evidence that HIV specialists provide better care for patients with HIV and AIDS than primary care physicians,¹⁻³ but it remains unclear whether the same can be said regarding the quality of care delivered by non-HIV STD specialists. The goal of this study was to evaluate and compare the quality of care in the management and treatment of STDs at STD clinics and general medical clinics following the 1995 restructuring.

METHODS

Study design

We performed a retrospective cross-sectional study of the STD care patients received at a purposive sample of general medical clinics and specialized STD clinics in Los Angeles County. We reviewed charts of patients seen from March 1, 1996, to June 30, 1996, at six study clinics. At each site, patient charts were randomly selected until we had identified 100 eligible STD-related patient visits or no further eligible visits were available. All patients had at least one STD-related visit and were seen by a clinician. The patients ranged in age from 15 to 49 years. Patient demographics (age, gender, country of birth), clinician adherence to a set of STD-related process of care quality indicators developed for this study, and laboratory values were obtained from encounter forms, chart notes, history forms, patient information forms, and laboratory slips. Trained abstractors, including present authors RL and AK, followed explicit and inclusive guidelines for scoring—if even minimal evidence was found that the indicated care was performed, it was coded as performed.

Setting

At the time of the study, there were 10 DHS primary care clinics, 4 public-private partnership clinics, and

11 STD clinics in Los Angeles County. DHS primary care clinics were operated by the county, while public-private partnership clinics were operated by private nonprofit organizations. Unlike many general medical clinics, STD clinics relied almost exclusively on physicians for service delivery and often used standardized protocol sheets to manage patients with STDs; these included medical record encounter forms that could be checked off and STD management guidelines.

The present study was part of a larger retrospective study comparing quality of care for outpatient clinics before and after the October 1995 restructuring. We excluded data from two specialized STD clinics because one clinic did not provide care in 1995 and the other clinic was unable to recover its patient charts from 1995 and 1996. One public-private partnership clinic refused to participate in the present study for reasons relating to administrative burden. Thus, 10 DHS primary care clinics, 3 public-private partnership clinics, and 8 STD clinics were eligible for inclusion in the present study. Two clinics from each category were randomly selected.

Process of care indicators

We drafted a preliminary list of STD-related process of care quality indicators by interviewing experts and reviewing the scientific literature, including STD care recommendations from DHS and the Centers for Disease Control and Prevention as well as other clinic guidelines. Indicators addressed the following clinical areas: gathering of patient information, review of a patient's medical and sexual history, examination, laboratory testing, diagnosis, treatment, follow-up, care of partners, disease reporting, and health education.

We used a modified Delphi method to refine and improve the draft STD care criteria. The list of criteria and supporting information were submitted to a panel of experts for their review. The nine panelists included STD and primary care practitioners and the medical directors of four major metropolitan health department STD programs. In two rounds of review, each panelist rated how strongly he or she agreed that performance of each criterion prevented the adverse outcome; how strongly the scientific evidence supported the link between the indicated care and the outcome; how feasible it was to measure the performance of the criterion by chart review; and an overall rating. Thirty-two indicators survived this process.

Definition of an STD-related visit

A visit was considered to be STD-related if at least one of three conditions was met:

1. Reason for the visit involved:
 - STD-related symptoms, limited to genital discharge, rash, lesion, lump, pain, odor, warts, edema; dysuria; inguinal adenopathy; or
 - Exposure to an STD; or
 - Positive STD test result; or
 - Request for STD check-up; or
 - Referred for STD care.
2. Diagnosis was STD-related, specifically a diagnosis of or exposure to at least one of the diagnoses listed in the Figure.
3. Microbiologic or serologic test on the date of visit was positive for one of the diagnoses listed in the Figure.

“Classic” vs “non-classic” STDs

We applied the term “classic STD” to all diagnoses for which sexual transmission is the primary means of contracting the illness, according to three of the present authors: a board-certified infectious disease physician (DCR), a medical director of a major metropolitan health department STD program (GAR), and an STD and primary care practitioner (SMA). We applied the term “non-classic STD” to all conditions for which these authors deemed that sexual contact was not an exclusive requirement for transmission (e.g., urinary tract infection). Patients were classified as having a classic or non-classic STD based on the physician diagnosis listed in the medical record (that is, not based on lab results or other sources of information). We chose to classify patients based on diagnosis rather than initial presenting symptoms because the process of care quality indicators that were developed were applicable to patients with documented STDs; the presence of symptoms could not reliably predict the presence of an STD in all cases. Though HIV is included in the list of classic STDs, very few patients in the sample were known to be HIV-positive because the county operates separate HIV clinics. Our subjective estimate is that 5% of patients in the study sample were HIV-positive.

Statistical methods

We compared patients’ gender, age, and country of origin for the two STD clinics vs the four general medical clinics using the chi-square test, and compared compliance with quality indicators between groups of patients using the Fisher’s exact test. Two-sided p values ≤ 0.05 were regarded as significant. We also performed subset analyses to determine the independent effects of classic STDs vs. non-classic STDs, gender, and foreign birth on specific groups of indicators.

Figure. “Classic” and “non-classic” STD diagnoses

Classic STD diagnoses

Chancroid
Chlamydia
Gonorrhea
Herpes
HIV-positive
Lymphogranuloma venereum
Molluscum contagiosum
Pediculosis pubis
Pelvic inflammatory disease
Syphilis: primary, secondary, latent, previously treated, or undefined
STD check-up
Trichomonas
Venereal warts

Non-classic STD diagnoses

Bacterial vaginosis
Balanitis
Cervicitis
Cyst (Bartholin or sebaceous in genital area)
Epididymitis
Folliculitis (in genital area)
Mucopurulent cervicitis
Non-gonococcal urethritis
Orchitis
Prostatitis
Rule out STD
Urinary tract infection
Vaginitis
Yeast

RESULTS

Patient visits

There were 2,526 unique patient visits to the two STD clinics, and 10,817 to the four general medical clinics (9,358 to two DHS primary care clinics and 1,459 to two public-private partnership clinics). We reviewed 255 STD clinic charts in order to identify 205 (89%) STD-related eligible visits. We reviewed 2,790 general medical clinic charts in order to identify 374 (13%) eligible charts; 1,344 DHS primary care clinic charts were reviewed in order to identify 192 (14%) STD-related eligible visits, and 1,446 public-private partnership charts were reviewed in order to identify 182 (13%) STD-related eligible visits. There were 119 STD clinic charts and 25 general medical clinic charts documenting patient visits with classic STD diagnoses, while 86 STD clinic charts and 349 general medical clinic charts showed patient visits with non-classic STD diagnoses.

Patient demographics

A higher percentage of visits to general medical clinics than to STD clinics involved female patients. This was also true for patients with classic STDs (16/25 [64% female] for general medical clinics vs. 38/119 [32% female] for STD clinics; $p=0.00$) and non-classic STDs (321/349 [92% female] for general medical clinics vs. 33/86 [38% female] for STD clinics; $p<0.001$). The percentages of patients who were younger than 35 years of age and the percentages of patients who were foreign-born did not significantly differ between general medical clinics and STD clinics for classic STD diagnoses ($p>0.05$). However, among patients with non-classic STD diagnoses, a higher percentage of foreign-born patients (203/349 [58%]) was seen in general medical clinics than in STD clinics (26/86 [30%]; $p<0.001$).

Quality performance

In terms of the quality of care delivered to patients with classic STD diagnoses, STD clinics demonstrated a greater adherence than general medical clinics to 14 (44%) of 32 process of care quality indicators (see Table). In particular, these included better performance on one aspect of patient information collection, six aspects of history taking, two aspects of the physical examination, four aspects of lab test ordering, and one aspect of patient follow-up. General medical clinics performed better than STD clinics in treating patients with classic diagnoses in 4 of 32 areas, including history taking of non-injection drug use, examination of the oropharynx, documentation of lab tests, and offering condoms. In 14 areas, there were no statistically significant differences between the clinic types: documentation of patient's locating information (address and phone number), health care consent, reason for visit, allergies, and pregnancy status; performance of wet mount and pregnancy tests; recording of diagnosis; prescribing treatment; providing same-day treatment; giving a follow-up appointment; notifying the partner; and submitting a confidential morbidity report (CMR) to DHS.

Quality performance for patients with non-classic STDs and "all patients"

The same pattern was found for patients with non-classic STDs and for "all patients." For non-classic STD patients, STD clinics achieved higher compliance with 15 indicators, while general medical clinics achieved higher compliance with 5 indicators (non-injection drug use history, lab tests documented, treatment prescribed, same-day treatment, and offering of condoms) ($p<0.001$). Similarly, when data were analyzed for all

patients, STD clinics outperformed general medical clinics 19 to 5.

History-taking for foreign-born patients with classic STDs

Because the two clinic types had different distributions of foreign patients, we also analyzed these populations separately. Forty-six STD clinic charts and 11 general medical clinic charts involved foreign-born patients with classic STD visits. Although there was limited power with this reduced sample size, we found that STD clinics performed better than general medical clinics on four history-taking quality indicators (history of STDs, presenting symptoms, current medications, injection drug use), while general medical clinics did better in two areas (sexual history and history of non-injection drug use).

Gender-specific indicators for classic STD patients

There was also a difference between clinic types with respect to gender. However, when we evaluated the performance of genital exam, rectal exam, and chlamydia and gonorrhea testing separately for female and male classic STD patients, the results demonstrated that all STD clinic patients with classic STDs, regardless of gender, received genital and rectal exams and gonorrhea testing, while 97% received chlamydia testing. Both males and females were less likely to receive rectal exams in general medical clinics than in STD clinics ($p<0.001$), and males seen in general medical clinic males were less likely to receive genital exams than males seen in STD clinics ($p<0.001$).

DISCUSSION

During the study period, the adherence rate for several STD-related process of care quality indicators was greater in STD clinics than in general medical clinics. This was true for patients with diagnoses of classic STDs and non-classic STDs as well as for the total patient population. Furthermore, the quality indicators for which STD clinics demonstrated a higher rate of adherence were, arguably, the ones of greatest importance. STD clinics demonstrated a higher rate of adherence on obtaining HIV consent, assessing patient history (most indicators), performing physical exams (all indicators), ordering laboratory exams (including tests for gonorrhea, syphilis, and HIV), and some follow-up indicators. General medical clinics demonstrated a higher rate of adherence on assessment for non-injection drug use, documentation of lab tests, provision of same-day treatment, and offering of condoms. Notably, however, both STD clinics

Table. Compliance with process of care indicators for patients with "classic" STDs

Components of STD care	STD clinics (n = 119 patient visits)		General medical clinics (n = 25 patient visits)		p-value
	Number	Percent	Number	Percent	
Patient information and consent					
1. Locating information documented	115/119	97	25/25	100	
2. Health care consent received	115/119	97	24/25	96	
3. HIV consent received	100/100	100	1/3	33	<0.001
Patient history reviewed					
4. History of STDs	85/119	71	6/25	24	<0.001
5. Reason for visit	118/119	99	25/25	100	
6. Presenting symptoms	119/119	100	22/25	88	0.005
7. Allergies	119/119	100	24/25	96	
8. Current medications	119/119	100	17/25	68	<0.001
9. Sexual history	38/119	32	1/25	4	0.003
10. Injection drug use history	119/119	100	9/25	36	<0.001
11. Non-injection drug use history	17/119	14	10/25	40	0.009
12. Pregnancy status	38/38	100	16/16	100	
13. Contraceptive practice	36/38	95	10/16	63	0.006
Physical exam performed					
14. Genital exam	119/119	100	22/25	88	0.005
15. Perianal exam	42/122	34	8/25	32	<0.001
16. Oropharynx exam	12/122	10	8/25	32	
17. Skin exam	118/119	99	10/25	40	<0.001
Laboratory exams performed					
18. Chlamydia	115/118	97	2/21	81	0.018
19. Gonorrhea	118/118	100	18/22	82	<0.001
20. Syphilis	119/119	100	9/23	39	<0.001
21. HIV	97/117	83	1/24	4	<0.001
22. Wet mount	11/15	73	12/13	92	
23. Pregnancy	1/1	100	5/5	100	
24. Lab tests documented	119	7	8/25	32	
Diagnosis recorded					
25. Diagnosis recorded	119/119	100	25/25	100	
Treatment provided					
26. Treatment prescribed and appropriate	110/119	92	22/25	88	
27. Same-day treatment prescribed and appropriate	39/83	47	14/24	58	
Follow-up performed					
28. Follow-up appointment given	119/119	100	22/22	100	
29. Plan for partners noted	74/79	94	15/18	83	
30. CMR submitted	30/41	73	2/6	33	
31. Health education provided	98/119	82	6/25	24	<0.001
32. Condoms offered	10/119	8	6/25	24	0.036

STD = sexually transmitted disease

CMR = Confidential Morbidity Report, the form used for provider reporting to the public health department

and general medical clinics demonstrated less than 50% compliance with quality indicators in areas that related to inquiring about sexual and non-injection drug use histories, documenting lab tests, and providing condoms. According to visit records, condoms were offered no more than 11% of the time for patients of general medical clinics with classic STDs, and were offered only 8% of the time to STD clinic patients with classic STDs. The low rate of adherence on offering condoms may have been due to multiple factors,⁴ but the most likely explanation is poor documentation. Condoms are often freely available, especially in STD clinics, and their distribution may not be documented.

The observed difference between the two clinic types could have been due to provider experience. Eighty-nine percent of visits to STD clinics were STD-related, while only 13% of visits to general medical clinics were STD-related. A review of studies evaluating care delivered by generalists and specialists demonstrated that in several areas (cardiology, mental health disorders, HIV/AIDS, rheumatology, pulmonary, neurology, endocrinology) specialists provided overall better care.¹ However, generalists provided better care than specialists in areas such as vaccinations and identification and treatment of psychosocial problems.¹ Several studies have demonstrated that inpatient mortality is lower with HIV specialist care.²⁻⁶ Also, physicians with less experience in treating HIV-infected patients are less likely to perform important basic HIV-related tasks such as ordering *P. carinii* pneumonia prophylaxis, screening for coinfections, vaccinating, and offering isoniazid prophylaxis⁷ and more likely to miss important physical exam findings related to HIV infection.⁸ Although a specialty in providing STD care is not the same thing as a specialty in cardiology, neurology, or endocrinology, STD specialists perform duties very similar to those of other specialists in that they treat on a regular basis a relatively homogeneous group of patients. Thus, the results of our study support the concept that specialty care may be associated with better quality care.

However, experience does not matter in all areas of STD care. Curtis and colleagues have demonstrated that physician experience with HIV is not associated with counseling regarding condom use,⁷ and Bowman and colleagues have shown that provision of STD-related educational materials to primary care physicians does not improve the likelihood of their providing counseling.⁹ Both STD and primary care providers in our study performed poorly in this area, suggesting that other measures may need to be implemented to increase the frequency of counseling about condom use.

The use of standard protocol sheets in STD clinics

could also have explained the quality differential between STD clinics and general medical clinic. Previous studies have shown that clinical practice guidelines were most effective when they were patient-specific and delivered in a timely manner,¹⁰ and that protocol sheets facilitated adherence to guidelines.¹¹ Beyond improving care delivery, protocol sheets may also have improved documentation, perhaps accounting for some of the observed differences.

While differences in patient demographics and workload potentially confounded our findings, stratified analyses showed limited impact of these factors. The general medical clinics had larger numbers of foreign-born patients, and differential availability of translation services might explain some differences in the diagnostic indicators requiring detailed history taking. All clinics were subject to county policies mandating translator availability, but we did not evaluate use of translators. Finally, a greater workload in the general medical clinics could have accounted for the observed poorer quality of care (since there were over twice as many unique patient visits per general medical clinic as per STD clinic); however, data from telephone interviews suggested that general medical clinics were staffed with more than twice as many clinicians as in STD clinics.

While other studies have evaluated quality of care for patients with non-HIV STDs,¹²⁻¹⁵ our study differed from these in several regards. First, our study and one by Shekelle and Kosecoff¹² were conducted in the U.S., while the others were conducted in Africa.^{14,15} Second, our study evaluated the quality of STD care in a general population of low-income patients, while Shekelle and Kosecoff¹² evaluated quality of STD care for VA patients, the vast majority of whom were male. Third, we compared quality of STD care between two types of clinics, unlike other studies. Fourth, unlike other studies, our study used a modified Delphi process with nine panelists to agree upon the process of care quality indicators. Fifth, we evaluated a larger category of STD patients than did the other studies; we evaluated quality of care for patients with both classic STDs and non-classic STDs, not just classic STDs.

Nevertheless, this study had important limitations. Since we performed a retrospective review of charts, the quality of our data was only as good as the quality of the documentation in the charts. Some clinicians may have adhered to certain quality measures without fully documenting their actions in the medical records. This could be especially true for measures that clinicians may have deemed of lesser medical importance to the immediate health of the patient¹⁶ (e.g., offering condoms). Another limitation was the relatively small

sample size for classic STD patients in general medical clinics (25).

In summary, we developed a list of STD-specific quality performance indicators that could be applied to the outpatient clinical setting. The list was developed in a rigorous manner, which was a strength of this study, and can be generalized to patients with confirmed STD diagnoses as well as patients who had potentially STD-related symptoms. The performance indicators showed that the adherence rate to several quality indicators was greater in STD clinics than in general medical clinics. Providers at STD clinics may have had more disease-specific experience, and the use of standardized forms may have contributed to better compliance rates. Further studies will be needed to determine if implementing protocol sheets, educational programs,¹⁷ or organizational strategies for managing patients with STDs will improve adherence to STD-specific process of care quality measures in general medical clinics. In the absence of such efforts, our data do not support the shift in emphasis toward primary care providers in the management for patients with STDs.

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