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Scaling up routine HIV testing at specialty clinics: Assessing the effectiveness of an academic detailing approach

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Abstract

Introduction—Scaling up routine HIV testing represents a key component of the National HIV/AIDS Strategy. Barriers to routine HIV testing have limited widespread adoption. While many patients visit specialty care providers, few efforts to increase routine HIV testing in specialty care settings have been made. We report on use of a survey of barriers to routine testing, coupled with academic detailing-type educational sessions to increase routine testing at specialty clinics in Chicago's main safety-net health system.

Methods—We devised a survey to assess specialty provider knowledge, attitudes and barriers to routine HIV testing. We administered this at three specialty clinics. Each clinic's survey responses informed content for academic detailing-type presentations to each clinic's medical providers. We provide descriptive statistics summarizing survey responses. We report changes in the HIV testing rates and use logistic regression to examine associations between time period and odds of testing at each clinic.

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Results—Specialty clinic providers demonstrated varying knowledge regarding routine HIV testing guidelines – with trauma providers having the least knowledge. Concerns regarding arranging follow-up for patients with positive results was the most cited barrier to testing. Two of the three specialty clinics experienced significant increases in routine HIV testing, while the third specialty service, which utilizes more rotating residents, had down-trending routine testing rates.

Discussion—The increase in routine HIV testing in two of three specialty services suggests that academic detailing-type interventions can improve routine testing uptake in public safety-net specialty care settings and may represent a useful component to incorporate into system-wide scale-up efforts.

Keywords

HIV testing; HIV epidemiology; HIV diagnostics

Introduction

Despite the availability of both accurate HIV testing, along with highly effective anti-retroviral therapy, rates of HIV incidence in the US failed to decline between 2006 and 2009¹. Of the estimated 1.1 million people living with HIV/AIDS (PLWHA) in the United States (US), only approximately 25% have achieved the goal of virologic suppression². Evaluation of the HIV care cascade reveals missed opportunities for better care of PLWHA at every level – diagnosis, linkage-to-care, engagement-in-care, receipt of anti-retroviral therapy and virologic suppression. In response to these inadequate outcomes, the National HIV/AIDS Strategy (NHAS) set out specific goals to decrease HIV incidence, improve access and quality of care for PLWHA and reduce HIV-related health disparities³.

Scaling up routine HIV testing represents a key component to the NHAS³. Early HIV diagnosis significantly decreases morbidity and mortality, yet, health systems employing risk and symptom-based HIV testing often diagnose patients late, and only after repeated encounters with the medical system^{4–9}. Given the inadequate outcomes associated with risk and symptom-based testing strategies, since 2006 the Centers for Disease Control and Prevention (CDC) has recommended that all adults seeking medical care be routinely offered HIV testing⁸. Despite the CDC's routine HIV testing guidelines, almost 20% of PLWHA nationally remain unaware of their HIV diagnosis^{10, 11}.

While efforts to implement routine HIV screening have enjoyed some success, barriers to HIV testing have limited widespread implementation. A systematic literature search on barriers to HIV testing uncovered 41 different barriers to testing, eight of which were common across different venues (e.g. peri-natal vs. Emergency Departments vs. primary care provider)⁹. Lack of knowledge/training was a commonly cited barrier, as were concerns about having to disclose positive results and concern about patient follow-up⁹.

Though much of the effort to scale up routine HIV testing has focused on Emergency Departments (ED) and primary care settings, many patient visits each year occur, non-primary care/non-ED specialty care settings^{7, 12–16}. Combined data from the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Survey conducted in 2008 showed that of the 1.2 billion outpatient and/or ED visits, only 10% consisted of ED visits vs. 90% occurring at physicians' offices or hospital outpatient clinics¹⁷. While 55% of the one billion outpatient office visits in 2010 occurred at primary care settings, patients made the remaining 45% of office visits -- an estimated 450 million -- to medical or surgical specialty clinics¹⁸. So while many patients visit specialty care providers each year, few efforts to augment routine HIV testing in specialty care settings have been made.

Academic detailing has been a practice traditionally used by the pharmaceutical industry to influence prescribing practices, but it has also been employed to improve the quality and cost efficiency of clinical decision making¹⁹. Academic detailing can utilize needs assessments associated with focused trainings during which experts supply medical providers with information geared at changing provider behaviors¹⁹. Such practices have been used to promote routine HIV testing in primary care settings^{7, 15, 20}. Herein, we report on an intervention, sponsored jointly by the Chicago Developmental Center for AIDS Research (D-CFAR) and the Chicago Department of Public Health (CDPH), which employed survey-based assessments of barriers to routine HIV testing, along with academic detailing-type educational sessions to scale up routine HIV testing at specialty care clinics associated with Chicago's foremost safety-net health system.

Methods

In order to help fulfill the CDC's Enhanced Comprehensive HIV Prevention Planning (ECHPP) goals related to HIV testing, the Chicago D-CFAR, in conjunction with CDPH, endeavored to increase rates of routine HIV testing via first employing a survey to assess specialty care provider-level barriers to routine HIV testing, followed by carrying out academic detailing-type educational sessions at chosen specialty clinics within the Cook County Health and Hospital System (CCHHS).

Setting

CCHHS provides safety-net care to approximately 500,000 unique patients annually in the Chicago metropolitan area. Referrals to CCHHS specialty clinics come from patients seen at the CCHHS hospitals Emergency Departments, inpatient services or from its Ambulatory Community Health Network, which provides primary care to over 175,000 patients annually. The specialty care clinics at the health system's primary hospital experience in excess of 200,000 patient visits each year.

Program staff chose three specialty clinics on which to focus our intervention. We based our specialty clinic selection on the presence of receptive and interested leadership at each of the selected clinics, along with some data in the HIV literature suggesting that these clinical settings may yield higher HIV seropositivity rates^{21, 22}. The program worked with the dermatology, psychiatry and trauma specialty clinics to scale up routine HIV testing. To facilitate comparisons of HIV testing rates between clinics, the hematology clinic was selected to serve as a control specialty clinic at which program staff did not carry out interventions. We did not randomly assign clinics as intervention vs. control clinics, rather we selected intervention clinics based on the presence of administrative support for such efforts within each specific clinic.

Interventions

The project to increase routine testing at specialty clinics had two phases. For the first phase, project staff, in conjunction with the University of Illinois at Chicago School of Public Health Survey Research Lab, devised a survey to assess provider-level knowledge and attitudes with respect to routine HIV testing. In addition, the survey sought to identify provider-level barriers to routine HIV testing. Our survey utilized Likert scale ratings to assess attitudes about routine HIV testing. It employed multiple choice questions to test respondents' basic knowledge regarding HIV testing performance characteristics and guidelines. The survey made use of a pre-populated checklist of potential barriers/facilitators, along with rank order options for each barrier listed, to gauge barriers to routine HIV testing. The survey also used a similar checklist with a rank order option to elicit information as to which trainings would be most useful to providers. The project's HIV

testing advisor (TA) administered the paper surveys to clinic providers during in-person lunch meeting-based sessions at each of the project's three specialty clinics (Dermatology, Psychiatry, and Trauma) between April and May, 2012. The clinical lead physicians at each specialty clinic encouraged attendance at the training sessions and those providers who completed the surveys represent a convenience sample of clinicians who attended the trainings. Following the in-person survey administration session at each intervention clinic, the project's TA made one additional attempt at each clinic to get providers who previously had not completed the surveys to do so.

The project's second phase consisted of using each clinic's survey results to inform the content of academic detailing-style presentations given by the project's TA to the medical staff at each clinic. The sessions focused on working with each clinic to overcome the key barriers to routine HIV testing revealed by the survey. The TA, along with key project staff, carried out these presentations between May through July, 2012.

Outcomes and analysis

For the first survey phase of the project, we report on basic descriptive statistics, describing the survey responses from each clinic. In addition we report on key findings related to provider level knowledge, and attitudes related to routine HIV testing, as well as highlighting key barriers cited by specialty clinic survey respondents.

For the project's second academic detailing phase, we compared HIV testing rates at each of the intervention specialty clinics with the testing rates at the hematology clinic, which served as a control clinic, and compared testing before and after the implementation of the intervention at each of these four clinics. We considered patients with no previous HIV test result noted in our electronic medical record (EMR) as eligible for HIV testing and included these patients in our analysis. We calculated the proportion of patients tested among the total patients eligible for testing at each location by month, and evaluated trends in testing over time with the Cochran-Armitage test for trend. We compared overall differences in the proportion of patients tested at each clinic using Chi-Square tests. Our analysis considered three distinct analytic periods: the pre-intervention period – January and February, 2012; the intervention period – March through July, 2012; and post-intervention period – August and September, 2012. At each clinic, we used logistic regression to determine whether the odds of testing differed during the intervention and post-intervention periods compared to the pre-intervention period. We analyzed data using SAS Version 9.2 (SAS Institute, Cary, NC).

Results

Phase 1 – specialty clinic survey results

We surveyed 43 specialty clinic providers regarding their knowledge and perceived barriers related to routine HIV testing. Table 1 shows key characteristics of the specialty clinics and the providers surveyed.

Knowledge of HIV testing guidelines—We asked all respondents to answer several questions regarding their knowledge of the CDC's 2006 HIV testing guidelines recommending routine HIV testing for all adolescents and adults with unknown HIV status. Ninety percent of dermatology clinic vs. 86% of psychiatry clinic vs. 42% of trauma service respondents correctly answered the question regarding routine HIV testing guidelines ($\chi^2=9.10$, $p=0.011$).

Attitudes about HIV testing—Figure 1 summarizes survey respondents' attitudes regarding HIV testing, who rated their degree of confidence or level of agreement with the

testing-related domains of discussing HIV testing, discussing positive HIV test results and importance of offering routine HIV testing to all patients.

Barriers to HIV testing—Table 2 summarizes the barriers to routine HIV testing revealed by our survey of specialty clinic providers. The two most frequently cited reasons for not offering routine HIV testing in the specialty clinics surveyed included: “I don’t know how to arrange follow-up for positive patients” – cited by 33% of respondents, and “I’m not confident the patient will return for results” – cited by 28% of respondents. The most commonly noted administrative or structural barrier was, “I don’t have enough time to explain HIV testing to patients,” noted by 30% of respondents. We also asked respondents to rank potential barriers to routine HIV testing in the order of importance. Twenty-six percent of respondents ranked, “I’m not confident the patient will return for results” as their first or second chief reason for not offering routine HIV testing. Eight-five percent of respondents ranked, “I don’t know how to link positive patients to care” as the top structural or administrative barrier to routine HIV testing in their specialty care site.

Phase 2 – Academic detailing and its effects on routine HIV testing rates

In 2012, from January through September, 507/5543 (9.2%) of the eligible patients were routinely tested for HIV at the four specialty clinics (three intervention and 1 control). Overall testing rates varied by clinic: from 15.6% (192/1229) at the dermatology clinic, to 10.8% (105/974), 4.6% (124/2718), and 13.8% (86/622), at the psychiatry, trauma and hematology (control clinic) clinics respectively (chi-square p-value <0.001) (see Figure 2). At baseline, testing was highest at the hematology (control) clinic (17.4%) followed by trauma (11.6%), dermatology (8.2%), and psychiatry (7.7%). Trends over time in the proportion of eligible patients tested varied by clinic; testing increased over time in the dermatology and psychiatry clinics, remained relatively stable in the hematology (control) clinic and decreased in the trauma clinic (see Figure 2). For the hematology (control) clinic, the odds of routine testing were lower in the intervention (OR 0.69, 95% CI 0.41–1.17) and post-intervention (OR 0.66, 95% CI 0.34–1.31) periods compared to the pre-intervention period, though the differences were not statistically significant. In the dermatology clinic, compared to the pre-intervention period, the odds of testing were 2.43 (95% CI 1.53–3.85) and 2.57 (95% CI 1.51–4.36) times greater during the intervention and post-intervention periods respectively. At the psychiatry clinic the odds of testing were significantly higher in the post-intervention period (OR 2.36; 95% CI 1.30–4.30) compared to the pre-intervention period. In the trauma clinic, the odds of testing were significantly lower during the intervention (OR 0.23; 95% CI 0.15–0.35) and post-intervention (OR 0.27; 95% CI 0.17–0.45) periods compared to the pre-intervention period.

Discussion

These findings demonstrate that academic detailing-style educational sessions can enhance rates of routine HIV testing for public safety-net health system specialty clinical services. Both the dermatology and psychiatry clinics experienced significant increases in testing rates over time, which were not seen at the control hematology clinic. In contrast, the trauma service did not achieve an increase in its rate of routine HIV testing, despite similar interventions.

The findings from our survey assessing specialty provider knowledge and attitudes regarding routine testing may, in part, explain the different outcomes seen in the dermatology and psychiatry clinics, compared to the trauma service. The trauma service demonstrated the lowest degree of knowledge regarding national HIV testing recommendations. Additionally, the survey demographics results reveal significant staffing

differences between the trauma versus the other specialty services surveyed – with residents, who rotate monthly, representing a majority of the providers for the trauma service versus attending physicians comprising a majority in the psychiatry clinic. While the dermatology is staffed primarily by residents, they are non-rotating dermatology residents who provide year-long staffing for outpatient dermatology services. While the trauma service does have attending physicians who provide non-rotating staffing supervision, an academic detailing intervention based on one or two training sessions does not fulfill the training needs for a service that experiences significant monthly staffing turnover.

Our project has several important limitations. Interventions within complicated health systems do not occur in a vacuum. Often multiple system related changes and interventions which may impact an outcome such as HIV testing rates occur concurrently. Within the CCHHS during the study period, inpatient and emergency medicine services, such as the trauma service, transitioned to physician order entry (POE) via the EMR. As a part of the POE implementation for inpatient and emergency services, the health system installed a prompt to remind providers to order an HIV test²³. This EMR order prompt served to increase the pre-intervention testing rate for the trauma service. Interestingly, when the trauma service attending physicians discovered that their service's residents had been ordering routine HIV testing due to the EMR prompt without a trauma service HIV testing policy in place, the trauma service administration prohibited ongoing routine HIV testing on the service, prior to a policy being formulated, and approved by the service's leadership. Despite our project's attempt to coauthor and help implement a trauma service HIV testing policy to facilitate routine testing; such a policy had not been implemented by the time this project ended. This dynamic likely accounts for the trauma service's down-trending HIV testing rate.

While the CDC released recommendations advocating routine HIV testing for all people between the ages of 16–64 with unknown HIV status back in 2006, the imperative of fully implementing these guidelines persists⁸. While there has been some decline in the rate of PLWHA unaware of their diagnosis, recent surveillance data show that proportion still stands at nearly 20%²⁴. Achieving 2015 NHAS goals of decreasing HIV incidence, limiting HIV transmission, increasing the proportion of PLWHA engaged in care and improving the proportion of PLWHA who achieve virologic suppression, are all predicated upon reaching the goal of raising the proportion of PLWHA aware of their diagnosis to 90%²⁵. In their analysis of projected costs and cost efficiencies related to reaching 2015 NHAS goals, Holtgrave et al. demonstrated that to achieve the NHAS virologic suppression goals, the only economically viable scenarios require that the rate of PLWHA aware of their diagnosis needs to increase to the strategy's stated goal of 90%²⁶. These economic projections underscore the importance of continuing emphasis on developing better strategies to scale-up routine HIV testing.

The poor response to training in the trauma clinic underscores the limitations of our training approach which did not correspond to the needs of service that experiences monthly staffing turnover. The lack of improved routine HIV testing rates in the trauma service, despite EMR order prompts, also reveals the potential limitations of system/process-related interventions to scale-up routine HIV testing. Despite these limitations, the significant increase in routine HIV testing rates in two of the three intervention clinics/services does suggest that an academic detailing-type intervention, which employs an initial needs assessment, followed by focused trainings, can improve rates of routine HIV testing in public safety-net specialty care settings and may represent a useful component to be incorporated into system-wide interventions to scale up routine HIV testing.

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References

1. Prejean J, Song R, Hernandez A, et al. Estimated HIV Incidence in the United States, 2006–2009. *PLoS ONE*. 2011; 6(8):e17502. [PubMed: 21826193]
2. Gardner EM, McLees MP, Steiner JF, del Rio C, Burman WJ. The spectrum of engagement in HIV care and its relevance to test-and-treat strategies for prevention of HIV infection. *Clinical Infectious Diseases*. 2011; 52(6):793. [PubMed: 21367734]
3. Millett GA, Crowley JS, Koh H, Valdiserri RO, Frieden T, Dieffenbach CW. A way forward: the National HIV/AIDS Strategy and reducing HIV incidence in the United States. *JAIDS Journal of Acquired Immune Deficiency Syndromes*. 2010; 55:S144.
4. Kitahata MM, Gange SJ, Abraham AG, et al. Effect of early versus deferred antiretroviral therapy for HIV on survival. *New England Journal of Medicine*. Apr 30; 2009 360(18):1815–1826. [PubMed: 19339714]
5. Walensky R, Paltiel A, Losina E, et al. The survival benefits of AIDS treatment in the United States. *The Journal of Infectious Diseases*. 2006; 194(1):11–19. [PubMed: 16741877]
6. Wang C, Vlahov D, Galai N, et al. Mortality in HIV-seropositive versus -seronegative persons in the era of highly active antiretroviral therapy: implications for when to initiate therapy. *Journal of Infectious Diseases*. Sep 15; 2004 190(6):1046–1054. [PubMed: 15319852]
7. Anaya HD, Butler JN, Solomon JL, et al. Implementation of Nurse-Initiated Rapid HIV Testing at High-Prevalence Primary Care Sites Within the US Veterans Affairs Health Care System. *Sexually Transmitted Diseases*. 2013; 40(4):341–345. [PubMed: 23486502]
8. Branson B, Handsfield H, Lampe M, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *Morbidity and Mortality Weekly Report*. Sep 22; 2006 55(RR-14):1–17. [PubMed: 16410759]
9. Burke R, Sepkowitz K, Bernstein K, et al. Why don't physicians test for HIV? A review of the US literature. *AIDS*. 2007; 21(12):1617. [PubMed: 17630557]
10. Lansky A, Prejean J, Hall I. Challenges in identifying and estimating undiagnosed HIV infection. *Future Virology*. 2013; 8(6):523–526.
11. Chen M, Rhodes PH, Hall HI, Kilmarx PH, Branson BM, Valleroy LA. Prevalence of Undiagnosed HIV Infection Among Persons Aged 13 Years --- National HIV Surveillance System, United States, 2005 – 2008. *Morb Mortal Wkly Rep*. 2012;57–64.
12. Brown J, Shesser R, Simon G, et al. Routine HIV screening in the emergency department using the new US Centers for Disease Control and Prevention Guidelines: results from a high-prevalence area. *Journal of Acquired Immune Deficiency Syndromes*. 2007; 46(4):395. [PubMed: 18077831]
13. Haukoos JS, Hopkins E, Byyny RL, et al. Design and implementation of a controlled clinical trial to evaluate the effectiveness and efficiency of routine opt-out rapid human immunodeficiency virus screening in the emergency department. *Academic Emergency Medicine*. Aug; 2009 16(8): 800–808. [PubMed: 19673717]
14. White DA, Scribner AN, Schulden JD, Branson BM, Heffelfinger JD. Results of a rapid HIV screening and diagnostic testing program in an urban emergency department. *Annals of Emergency Medicine*. Jul; 2009 54(1):56–64. [PubMed: 18990468]
15. CDC. [Accessed April 9th, 2013, 2013] HIV screening standard care. 2012. <http://www.cdc.gov/actagainstaids/hssc/>

16. Schappert S, Rechtsteiner E. Ambulatory medical care utilization estimates for 2007. Vital and Health Statistics. Apr.2011 13(169)
17. CDC. National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey. National Ambulatory Medical Care Survey; 2008. <http://www.cdc.gov/nchs/data/ahcd/preliminary2008/table01.pdf> [Accessed May 15, 2013]
18. CDC. [Accessed May 15, 2013] National Ambulatory Medical Care Survey: 2010 Summary Tables. 2012. http://www.cdc.gov/nchs/data/ahcd/namcs_summary/2010_namcs_web_tables.pdf
19. Soumerai SB, Avorn J. Principles of educational outreach ('academic detailing') to improve clinical decision making. JAMA: the journal of the American Medical Association. 1990; 263(4): 549–556. [PubMed: 2104640]
20. Fischer MA, Avorn J. Academic detailing can play a key role in assessing and implementing comparative effectiveness research findings. Health Affairs. 2012; 31(10):2206–2212. [PubMed: 23048098]
21. Sloan EP, McGill BA, Zalenski R, et al. Human Immunodeficiency Virus and Hepatitis B Virus Seroprevalence in an Urban Trauma Population. The Journal of Trauma. 1995; 38(5):736–741. [PubMed: 7760401]
22. Wanyenze RK, Nawavvu C, Namale AS, et al. Acceptability of routine HIV counselling and testing, and HIV seroprevalence in Ugandan hospitals. Bulletin of the World Health Organization. 2008; 86(4):302–309. [PubMed: 18438519]
23. Lubelchek, RJ.; Beavis, KG.; Niklinski, W., et al. Effective use of an electronic order prompt to scale-up lab-based HIV screening in a busy, urban emergency department. Paper presented at: 19th International AIDS Conference; 2012; Washington D.C.
24. CDC. Monitoring Selected National HIV Prevention and Care Objectives by Using HIV Surveillance Data - United States and 6 US Dependent Areas -- 2010. HIV Surveillance Supplemental Report. 2012; 17(3 part A)
25. Department of Health and Human Services/Centers for Disease Control and Prevention. Strategic Plan -- Department of HIV/AIDS Prevention -- 2011 through 2015. Aug. 2011
26. Holtgrave DR, Hall HI, Wehrmeyer L, Maulsby C. Costs, consequences and feasibility of strategies for achieving the goals of the National HIV/AIDS strategy in the United States: a closing window for success? AIDS Behav. Aug; 2012 16(6):1365–1372. [PubMed: 22610372]

Figure 1. Specialty clinic provider HIV testing-related attitudes

5 = extremely confident/routine testing extremely important, 3 = moderately confident/routine testing moderately important, 1 = not at all confident/routine testing not at all important

Figure 2. Proportion of eligible specialty clinic patients tested over time, by clinic
 Pre-intervention period = Jan–Feb, 2012; Intervention period = March–July, 2012; Post-intervention period = Aug–Sept, 2012

* $p < 0.05$ for proportion tested compared to pre-intervention period

Table 1

Characteristics of specialty clinics and providers surveyed

	Trauma	Dermatology	Psychiatry	Totals	p-value
# surveyed/total providers staffing clinic (% surveyed)	26/28 (93%)	10/15 (67%)	7/9 (78%)	43/52 (83%)	0.09
Female/total surveyed (% female)	14/26 (54%)	6/10 (60%)	5/7 (71%)	25/43 (58%)	0.69
Attendings/attendings + residents surveyed (% attending)	3/26 (12%)	2/10 (20%)	6/7 (86%)	11/43 (26%)	< 0.001
Approximate annual clinic census (patient visits)	5,700	20,000	13,000	NA *	NA

* NA = not applicable

Table 2

Specialty clinic providers reported barriers, and most desired trainings related to routine HIV testing

	Reasons for not testing?	Administrative or structural barriers to testing?	Desired trainings?
Most frequently selected responses:	33% -- I don't know how to arrange follow- up for positive patients	30% -- I don't have enough time to explain HIV testing to patients	58% -- more info on HIV test consent rules/policy
	28% -- I'm not confident the patient will return for results		58% -- more info on how to arrange follow up for patients with positive results
Highest ranked responses:	26% -- ranked 1 st or 2 nd : I'm not confident the patient will return for results	85% -- ranked 1 st or 2 nd : I don't know how to link positive patients to care	83% -- ranked 1 st or 2 nd : more info on how to arrange follow-up for newly diagnosed
		71% ranked 1 st or 2 nd : I don't have enough time to explain HIV testing to patients	