Does Integrating Viral Hepatitis Services into a Public STD Clinic Attract Injection Drug Users for Care?

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SYNOPSIS

Objective. Injection drug users (IDUs) are at high risk for multiple health problems, including human immunodeficiency virus (HIV), viral hepatitis, and sexually transmitted diseases (STDs), and are likely to have poor access to health care. To more effectively serve high-risk clients, experts recommend that programs accessed by such client populations offer integrated services. In 2000, the New York City Department of Health and Mental Hygiene integrated viral hepatitis services (vaccine and screening) into a publicly funded STD clinic. We evaluated integrated service delivery to high-risk IDUs at this clinic.

Methods. Hepatitis data were reviewed to identify clients who self-reported as IDUs. STD medical records of these clients were abstracted to ascertain primary reason for clinic visit, STD/HIV services received, and diagnoses made.

Results. Between May 2000 and March 2004, 8,778 individuals received hepatitis services, of whom 3% (279/8,778) reported injection drug use. Nearly 60% (161/279) of IDUs reported availability of hepatitis services as the primary reason for the clinic visit. Of these 161 clients, 103 (64%) also received other services; 54% (55/103) had an STD exam (yielding 12 new STD diagnoses), and 59% (61/103) had HIV counseling and testing (yielding two new HIV cases). Of these 103 clients, 31 (30%) were referred to the clinic for hepatitis services from a drug treatment center, and 77% (24/31) tested positive for the antibody to hepatitis C virus.

Conclusions. Integrated hepatitis services appeared to attract IDUs to this STD clinic, where many also benefited from STD/HIV exams, testing, treatment, and referrals they may not have received otherwise.

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Injection drug users (IDUs) are at high risk for multiple health problems, such as human immunodeficiency virus (HIV) and viral hepatitis. In 2004, 19% of all newly reported HIV infections in the United States were attributed to injection drug use. Additionally, in 2004, 16% of all acute hepatitis B virus (HBV) infections and 42% of all acute hepatitis C virus (HCV) infections were attributed to injection drug use.² Studies have found that women IDUs have high rates of exchanging sex for drugs and/or money, often without condoms, placing them at high risk for sexually transmitted diseases (STDs).³⁻⁶ Additional studies of IDUs have shown high rates (48% to 56%) of self-reported, lifetime history of at least one STD.^{5,7,8} Studies of IDUs that included STD testing found high rates of current infection, ranging from 8% for chlamydia, gonorrhea, or trichomoniasis to 48% for genital herpes.^{3,6}

Although IDUs are burdened with many healthrelated problems, studies of preventive health services and vaccinations in syringe exchange programs show that only half of the clients received any of the health services offered, and acceptance of vaccinations was low. 9,10 A project that offered HIV-infected clients an array of social and health referrals found that IDUs were more likely to accept referrals for immediate needs such as housing; but less than half of HIVinfected IDUs who accepted health-care referrals actually received any services.¹¹

Public health experts have recommended that health programs serving clients at risk for multiple health problems integrate relevant services to more efficiently meet client needs.¹² Arguments have been made that integrating services can be cost-saving and decrease barriers for clients who might otherwise need to go to several locations for services.¹³ Program integration is one step toward making a range of important preventive services more accessible to clients.¹⁴

The New York City Department of Health and Mental Hygiene (NYC DOHMH) Bureau of STD Control (BSTDC) is experienced with service integration. Pap smears have been offered at BSTDC clinics since the 1970s. In 1997, traditional HIV counseling and testing sites were merged into BSTDC clinics, where roughly 50,000 anonymous and confidential HIV tests were performed in 2005. Additionally, in 2003, a NYC law mandated that all STD clinics offer emergency contraception to women at risk of unintended pregnancy.

In May 2000, with funding from the Centers for Disease Control and Prevention (CDC), NYC DOHMH began offering integrated viral hepatitis services (hepatitis A and B vaccinations and HCV counseling, testing, and referral [CTR]) at the Riverside STD clinic, one of 10 BSTDC clinics. The clinic offers free exams, testing, and treatment for STDs (e.g., syphilis, chlamydia, gonorrhea, cervical cancer screening), as well as confidential and anonymous HIV CTR.

Prior research on program integration demonstrates the need for integrated services, as well as high acceptability of such services by clients utilizing them and staff providing them. 8,15 Research on integrated services also demonstrates no decrease in productivity of the original service (i.e., integrated services do not overburden staff and do not require excessive financial or personnel resources). 16 Further reports demonstrate that clients who access the original program take advantage of new services being added.^{13,14} However, data documenting that newly integrated services can draw in new clients, who then take advantage of all services, have not been reported.

Our research focused on IDUs, an important segment of clinic clientele that may benefit from the clinic's range of health services. We examined integrated hepatitis/STD/HIV service delivery for IDUs who attend the Riverside STD clinic and discuss how this program may have benefited them. We also looked at whether integrating services had an impact on the number of clinic visits.

METHODS

Design and implementation

An on-site project coordinator was hired to plan, implement, and evaluate integration of hepatitis vaccination and screening into the Riverside STD clinic. Several points of service integration were established. The client intake form was updated to include hepatitis services offered, and hepatitis educational posters and brochures were placed in waiting and exam rooms. The STD medical chart was amended to include hepatitis eligibility assessments to prompt clinicians to recommend appropriate hepatitis service. Protocols were developed, staff trained, and counseling staff instructed on transmission routes and prevention methods common to HIV, viral hepatitis, and STD and how to incorporate hepatitis messages into counseling. Referral agreements were established for clients testing positive for viral hepatitis. Two lay vaccinators were transferred from the Bureau of Immunization to the Riverside STD clinic to administer vaccine.

Originally, a stand-alone data system was developed to monitor and evaluate hepatitis services. The system included a central client registry, which assigned each client a unique identification number. All data collected, including risk information, vaccine delivery, test results, and referrals, were linked via that identification number. When administering a hepatitis vaccine, the vaccinator ascertained client risk information and entered it into the system, along with the vaccine lot number and edition date of the Vaccine Information Statement. The program calculated the date of next vaccination and produced postcards sent to remind clients of the need for subsequent vaccine doses. When a client received pre-test counseling for HCV, a scannable risk assessment form was completed and scanned into the data system, which also produced necessary laboratory slips.

Data collection and analysis

All hepatitis client records from May 2000 through March 2004 in which injection drug use was recorded during a hepatitis service visit were exported to a database in SPSS for Windows® (Release 11.5.0). 17 STD medical charts of these hepatitis/IDU clients were then reviewed to ascertain client's primary reason for the clinic visit (e.g., symptoms, HIV test, hepatitis service); whether the client had a medical exam and was diagnosed with an STD; and whether the client had an HIV test and, if so, the result. If a client reported STD symptoms on intake, this was coded as the main reason for visit regardless of other services requested. Data from the chart review were entered into the SPSS database for analysis. Primary analytic questions included the following: Did the IDU client visit the clinic specifically to receive hepatitis services? If yes, did they accept STD/HIV services? If so, was disease found and treated or was a new HIV diagnosis made? To assess the impact of integrating hepatitis services on the clinic, we compared the number of clinician visits, HIV test visits, and overall number of visits to the clinic during the first year of integration with the same measures from the previous year.

RESULTS

Overall

During the 46-month period, there were approximately 1,000 visits (not unique clients) per month to the Riverside STD clinic, and 8,778 individuals who received at least one hepatitis service. Nearly 15,000 doses of hepatitis A and B vaccines were administered. More than one-third (35%) of clients received both the first and second doses of hepatitis A vaccine, and 28% completed the three-dose vaccine series for hepatitis B. Vaccination completion rates were calculated by determining the number of clients who received a first dose, were eligible for a second dose, and received the second dose; and for hepatitis B, if eligible for the third dose and received the third dose (data not shown).

Initially, HCV testing was offered to all clients. Analy-

sis of program data indicated that offering HCV testing to only those clients at highest risk would identify the majority of those clinic clients who were infected. In July 2003, the clinic implemented guidelines for those who should be offered HCV testing based on risk for infection. During this study period, more than 2,800 clients were tested for HCV, of whom 8% (222/2,846) were positive for the antibody to HCV (data not shown).

Population of interest

Three percent (279/8,778) of clients who received hepatitis services at the Riverside STD clinic self-reported injection drug use (see Table). Of hepatitis clients who inject drugs, 42% (118/279) indicated symptoms or other reasons for coming to the clinic (e.g., HIV testing, Pap smear) and did not specifically request hepatitis services on intake. Conversely, hepatitis services were the primary reason for visits by 58% (161/279) of these hepatitis clients.

Of the 161 IDUs/hepatitis clients who reported hepatitis services as the primary reason for visiting the clinic, 58 (36%) received hepatitis vaccine only and 103 (64%) received additional STD/HIV services. Of these clients, 30% (31/103) were referred to the clinic for hepatitis services from a local drug treatment center (DTC). All 31 clients were tested for HCV, of whom 77% (24/31) were anti-HCV positive and referred for care. Additionally, 65% (20/31) of these clients accepted an STD exam, yielding five (25%) new STD diagnoses that were treated. No new cases of HIV were detected in this group. Of the other 72 IDUs who requested hepatitis services on intake, 89% (64/72) were tested for HCV; 61% (39/64) were anti-HCV positive and referred for care. Nearly half (35/72) of these clients accepted an STD exam, yielding seven (20%) new STD diagnoses that were treated; 60% (43/72) were tested for HIV, yielding two (5%) new HIV-positive clients who were referred for care. Overall, of the 103 IDUs who came to the clinic specifically for hepatitis services but also received STD/HIV services, 12 new STD diagnoses and two new HIV diagnoses were made, treated, and referred.

During the first 12 months of integration (May 2001–May 2002), there were no significant differences in the number of clinician visits or HIV tests performed at the Riverside STD clinic compared with the year before integration (April 2000–April 2001) (data not shown). However, there was a 13% increase in total client visits to the clinic, which may be attributable to clients coming to the clinic for hepatitis vaccine or screening only.¹⁸

Table. Hepatitis/IDU clients and the hepatitis, HIV, and STD services they received by reason for visit, Riverside STD clinic, May 2000–March 2004

Number of client visits to clinic (not unique patients) Unique clients who received any hepatitis service		~46,000 8,778
Hepatitis clients who reported injection drug use (1, 2, 3, 4)	279/8,778	(3%)
Hepatitis/IDU clients who reported coming to the clinic specifically for hepatitis services (1, 2, 3)	161/279	(58%)
Hepatitis/IDU clients who also received STD/HIV services (2, 3)	103/161	(64%)
Hepatitis/IDU clients who had an HIV test and were newly diagnosed as HIV+	2/61	(3%)
Hepatitis/IDU clients who had an exam and were newly diagnosed with an STD	12/55	(22%)

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Hepatitis, HIV, and STD service received	(1) Received hepatitis vaccine only (n=58)		(2) Drug treatment center referral to clinic for hepatitis services (n=31)		(3) Requested hepatitis services on intake (n=72)		(4) Symptomatic/ did not request hepatitis services on intake (n=118)		Total (n=279)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hepatitis A vaccine	22/58	38	30/31	32	14/72	19	37/118	31	61/279	22
Hepatitis B vaccine	44/58	76	27/31	87	36/72	50	81/118	69	188/279	67
Hepatitis C testing Anti-HCV+			31/31 24/31	100 77	64/72 39/64	89 61	81/118 33/81	69 41	205/279 112/205	73 55
HIV testing HIV+			18/31 0/18	58 0	43/72 2/43	60 5	18/118 4/18	15 5	142/279 6/142	51 4
STD testing STD+			20/31 5/20	65 25	35/72 7/35	49 20	101/118 51/101	86 50	156/279 63/156	56 40

IDU = injection drug user

HIV = human immunodeficiency virus

 ${\sf STD} = {\sf sexually} \ {\sf transmitted} \ {\sf disease}$

HCV = hepatitis C virus

DISCUSSION

Integrated hepatitis services were well utilized at the Riverside STD clinic, as evidenced by the nearly 9,000 individual clients who received at least one hepatitis service during the period. Hepatitis services appeared to draw at-risk IDUs to the clinic and, once there, many accepted STD/HIV services. Asymptomatic IDU clients—who may not have received STD/HIV screening if not for the hepatitis services that brought them to the clinic—were diagnosed with incident STD and HIV infections and were treated or referred for care. These clients clearly benefited from the array of relevant services offered by the clinic.

When hepatitis services were first introduced at the Riverside STD clinic, bureau management was concerned about overburdening staff and therefore no outreach or advertising was undertaken until the services were well established. Despite this lack of marketing, word of mouth in the community reached a local drug treatment center (DTC), which began referring clients to the clinic for hepatitis services. One-fifth of the IDUs who came to the clinic specifically for hepa-

titis services came from this program. While anti-HCV antibody prevalence in the clinic population tested was 8%, positivity of anti-HCV in this group of DTC clients was 77% (24/31). These clients were not only given their HCV test results but were also counseled about how to keep their livers healthy and how to reduce the risk of transmitting HCV to others, and were referred for medical follow-up. These findings were the impetus for BSTDC to conduct outreach to similar neighborhood programs whose clients could benefit from all the services offered at the clinic, using hepatitis as the hook. Although hepatitis services were the reason for the referral from DTC to the clinic, it is not known if clinic attendance was required for participation in the DTC program or if clinic visits were voluntary.

The findings from this project have some important limitations. The data analyzed were collected as part of an evaluation of a demonstration project and not a rigorously designed research study. Because this project was implemented in only one STD clinic, on the Upper West Side of Manhattan, the results cannot be generalized to other STD clinics, even those

in NYC. Baseline data on IDUs or hepatitis risk were not available on clients prior to adding hepatitis services to the clinic, and neighborhood-level data on IDUs were not analyzed. Furthermore, we report on a small number of self-identified IDU clients. Clients are likely to underreport injection drug use, which may underestimate the impact of integrated services on IDUs. Although we know that 161 IDUs requested hepatitis services on intake, we do not know how well intake staff recorded requests for hepatitis services or how many clients may not have specifically stated this request to intake staff. A bias in this direction would also lead to an underestimate of the results. Finally, 58 IDUs only received hepatitis A or hepatitis B vaccine and only saw a vaccinator, not a counselor or clinician. Because the vaccinator was able to identify the client's drug use, it is unclear if the client refused additional recommended services (HCV and HIV testing), if the vaccinator did not offer them to the client, or if the client already knew his or her status.

After March 2004, federal funding was no longer available to support the continued hepatitis service integration. However, NYC DOHMH and BSTDC leaders considered hepatitis integration an important health service and encouraged the Bureau of Immunization and the Public Health Laboratory to work together with the BSTDC, not only to continue hepatitis services at the Riverside STD clinic but to expand services to the entire network of STD clinics. Since completion of this analysis, hepatitis A and B vaccine has been integrated in all 10 NYC STD clinics, and screening for HCV is available in six of the clinics. The hepatitis database has been replaced by a program-wide electronic medical record, which allows BSTDC clinicians to access client records electronically across the clinic system. Automated prompts and reminders have been added to the system, ensuring that clients eligible for services are offered them. Hepatitis service integration has been considered a success, as demonstrated by the Riverside STD clinic experience in NYC. With continued support from health leaders, and financial and personnel resources to continue to support these activities free of charge to clients, integrated services will continue to benefit clients at risk and contribute to the reduction of viral hepatitis in NYC.

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