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HIV Rapid Testing in Substance Abuse Treatment: Implementation Following a Clinical Trial

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Abstract

The Substance Abuse Mental Health Services Administration has promoted HIV testing and counseling as an evidence-based practice. Nevertheless, adoption of HIV testing in substance abuse treatment programs has been slow. This article describes the experience of a substance abuse treatment agency where, following participation in a clinical trial, the agency implemented an HIV testing and counseling program. During the trial, a post-trial pilot, and early implementation the agency identified challenges and developed strategies to overcome barriers to adoption of the intervention. Their experience may be instructive for other treatment providers seeking to implement an HIV testing program. Lessons learned encompassed the observed acceptability of testing and counseling to clients, the importance of a “champion” and staff buy-in, the necessity of multiple levels of community and agency support and collaboration, the ability to streamline staff training, the need for a clear chain of command, the need to develop program specific strategies, and the requirement for sufficient funding . An examination of costs indicated that some staff time may not be adequately reimbursed by funding sources for activities such as adapting the intervention, start-up training, ongoing supervision and quality assurance, and overhead costs

Keywords

HIV; drug treatment; implementation; evidence-based practice

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Introduction

Substance abuse continues to be a major factor in the transmission of HIV/AIDS via injection and sexual risk behavior. One of the main HIV prevention strategies in the United States is identifying high-risk individuals, including substance abusers, and encouraging these individuals to be tested for HIV. The recent introduction of rapid HIV testing provided an opportunity to facilitate earlier diagnoses of HIV infection and made testing more feasible in non-medical settings. In 2006, the Centers for Disease Control and Prevention (CDC) released new testing guidelines making it a priority to bring HIV rapid testing into health care settings (Branson, Handsfield et al. 2006). The Substance Abuse Mental Health Services Administration (SAMHSA) has recommended and taken steps to promote testing in substance abuse treatment as an evidence-based practice (SAMHSA 2010). Although progress is being made, studies have shown that many substance abuse treatment programs do not currently offer on-site HIV testing (Brown, Kritz et al. 2006; Pollack and D'Aunno 2010). Substance abuse treatment agencies seeking to add HIV testing to their array of services must address issues of funding, staffing, training, treatment philosophy and culture change. This paper, written for administrators of community substance abuse treatment programs, describes issues community programs may face in responding to the recommendations from the CDC and SAMHSA, presents the approaches used by one treatment program to overcome implementation barriers, and recommends action steps that administrators may take to support agency change.

The emerging field of implementation science provides context for describing efforts to implement HIV testing and counseling into clinical practice. Implementation research, including case studies, can help identify critical elements in the successful integration of research findings and evidence-based interventions with health care policy and practice and is already informing HIV/AIDS prevention and treatment (Schackman 2010). Even after consensus has been reached regarding the benefits of a change in health services delivery, barriers that delay or prevent changes in clinical practice occur across a variety of domains (Kaftarian and Wandersman 2000). Substance abuse treatment programs typically have limited resources and must choose between competing priorities and mandates from funders. Implementation of new evidence based practices may not make it to the top of the priority list. Clearly, one important barrier is the time and effort to train staff and implement changes in busy clinical practices. Another barrier may be the perceived threat to professional freedom (Naylor, Feldman et al. 2009) arising from a potential “cookbook” approach dictating care for each patient. A third barrier may be skepticism that implementation would lead to outcome improvements (Willenbring, Kivlahan et al. 2004), and the belief that the results of randomized controlled trials may not be as valuable or useful as the clinical experience with each particular population of patients. These potentially formidable barriers are related to the chasm that often exists between clinical researchers and the community treatment providers who might implement research innovations in the clinic (Naylor, Feldman et al. 2009). To further complicate the dilemma, the last several years have brought funding cutbacks as a result of budget crises at the state and local level, and, consequently, implementing new practices has been particularly challenging.

Treatment interventions developed in academic settings and proven to be efficacious through randomized controlled trials may require substantial adaptation for use in the real world, due to the contrasting needs of randomized controlled trials (control, fidelity) and clinical practice (adaptability, flexibility). In addition, numerous factors are important predictors of whether a given clinic will implement a research-based innovation. Implementation predictors may be organized into five major domains: intervention characteristics (the type and strength of evidence, and the ease of implementation),

contextual factors external to the organization (funding availability and policy priorities), contextual factors internal to the organization (priorities, feasibility, and needs of the patients/clients), characteristics of the individuals involved (opinion leaders and change champions), and specific characteristics of the implementation process (the communication process and the implementation/maintenance of required steps) (Damschroder, Aron et al. 2009; Titler 2010). While all these factors are likely to be important, a secure source of funding for the innovation is clearly a fundamental requirement. In addition, the presence of positive opinion leaders and "change champions" has been shown to be a particularly powerful predictor of successful implementation. Finally, while research experience or connections are not required for implementation of research-based innovations, the successful translation of research into practice is facilitated by a functioning bi-directional collaboration between academic researchers and community-based clinical practitioners. The integral role of community providers in the research process creates trust and a sense of ownership leading to increased awareness and appreciation of research findings, as well as an increased determination to implement positive findings into clinical practice.

The purpose of this descriptive study is to identify the specific challenges a community substance abuse treatment program faced in implementing an evidence-based practice for HIV testing, to describe lessons learned, and to make recommendations to other programs implementing this practice. The agency's experience began with participation in a multi-site clinical trial sponsored by the National Institute on Drug Abuse (NIDA) Clinical Trials Network (CTN) and provides an example of how an academic/community collaboration can accomplish the goal of transferring research-based interventions to drug abuse treatment providers. We describe three phases of the agency's experience: Phase 1 – participation in a clinical trial which gave the agency the opportunity to study methods for HIV testing and counseling as well as methods to examine the related costs; Phase 2 – pilot implementation in the agency with modifications of the research model; and Phase 3 – full implementation in the agency, expanding from detoxification to outpatient services.

Setting

The Lexington Richland Alcohol and Drug Abuse Council (LRADAC) is a large, publicly funded, private non-profit substance abuse treatment agency located in Richland and Lexington Counties, in the midlands of South Carolina. LRADAC offers a wide range of substance abuse services including prevention, a Driving Under the Influence (DUI) re-licensing program, medical detoxification (residential), residential treatment for women, intensive outpatient, and outpatient services. LRADAC is a psychosocial treatment program that emphasizes drug-free living but also recognizes the importance of harm reduction, including in the area of HIV prevention. Although the agency employs medical staff in its 16 bed detoxification program in Richland County, this staff does not provide any type of medical service to clients in other program components. As is often the case in traditional 12-Step Recovery-focused programs, no pharmacotherapy services are offered to outpatients. While offering medical services in a traditional program is not inconsistent with the 12-Step traditions, it may be seen as a philosophical shift away from the emphasis on 12-Step based recovery.

Social service agencies in South Carolina, including LRADAC and other substance abuse treatment agencies, wishing to refer clients for HIV testing most often send those clients to county health departments operated under the governance of the South Carolina Department of Health and Environmental Control (hereafter referred to as the state Health Department). In 2006, building on a long-standing collaboration, the state Health Department and the Single State Authority for alcohol and drug services launched an initiative to increase the availability of HIV rapid testing in substance abuse treatment agencies. This enhanced

collaboration was encouraged at the federal level by SAMHSA (SAMHSA 2010). LRADAC was identified as one of ten agencies in South Carolina to participate in a rapid HIV testing collaborative, and a small amount of start-up funds was provided to each program. However, when LRADAC was selected as a site for a new CTN-funded HIV study (CTN0032, described below) in 2008, an HIV testing program was not yet in place, due to management decisions to delay a testing program in lieu of competing agency priorities. With agreement from the state Health Department and the Single State Authority, LRADAC chose to participate in the clinical trial and gain testing experience that could ultimately enhance implementation of an agency testing program.

Phase I: Studying HIV Testing and Related Costs

In 2008, the NIDA CTN began planning for a study of on-site rapid HIV testing in community substance abuse treatment programs. The study (HIV Rapid Testing and Counseling in Drug Abuse Treatment Programs in the U.S.: CTN protocol 0032) was designed to evaluate strategies for providing rapid HIV testing in substance use treatment programs, and an ancillary study was established to examine the cost and cost-effectiveness of these strategies. The goal of both CTN0032 and the ancillary cost study was to provide evidence for future policy development on the implementation of HIV testing in substance abuse treatment programs.

LRADAC was one of 12 community treatment programs around the United States selected for participation in CTN0032. In keeping with the study design, the agency agreed to approach and screen every client enrolled in outpatient services. All eligible clients were offered an opportunity to participate in the study. After providing informed consent, study participants were randomized to one of three arms: 1) the offer of on-site rapid HIV testing and risk reduction counseling based on the RESPECT-2 model (CDC 2010), 2) the offer of on-site rapid testing with information only, and 3) referral for off-site testing. Risk reduction counseling used in Arm 1 was designed for use with the rapid HIV test and consists of a 20–40 minute individual counseling session that provides personalized HIV risk information, explores personal risk behavior, creates a risk reduction plan, and identifies sources of support (Kamb, Fishbein et al. 1998; Metcalf, Douglas et al. 2005). Arm 2 presented information about the HIV test but no counseling. Arm 3 was consistent with the standard of care in the sites participating in the study and was considered “Treatment As Usual.”

Study staff were hired and cross trained as HIV risk reduction counselors and research assistants. Although the newly hired staff had some counseling experience, they had no research experience and no HIV testing and counseling experience. During a four day national meeting for research staff from the 12 sites, these counselors were trained and certified to conduct the risk reduction counseling model and on the testing procedures. The training included “HIV 101” (the basics of HIV, HIV transmission routes, and HIV treatment) and discussion of a DVD of a role-play of the RESPECT-2 intervention (which included risk assessment, risk reduction planning, and HIV test result delivery). Following the national training, counselors conducted additional recorded role-play sessions. These recordings were sent to the study intervention director and training coordinator, who reviewed them and provided individualized written feedback. During the national training, research staff were provided a detailed manual of operations and provided guidance on the stringent quality assurance procedures which would be used to monitor adherence to all testing, counseling and other protocol procedures.

The ancillary economic study calculated the cost to implement HIV testing and risk reduction counseling at each site from the perspective of the community treatment program. This included start-up costs, costs per client to conduct counseling and testing, and weekly

costs including ongoing training and quality assurance. Researchers applied micro-costing methods similar to those used in other HIV prevention studies (Ruger, Ben Abdallah et al. 2010). Research-related activities were excluded and overhead was estimated based on financial reports.

Due largely to the excellent receptivity of clients and staff to the HIV testing protocol, the site successfully enrolled 115 study participants from outpatient services over the four month enrollment period of the clinical trial, with study participants followed up at one and six months post-randomization. The main results and cost-effectiveness results of the trial will be reported in separate manuscripts currently in preparation.

Phase II: HIV Testing Modified from the CTN Model

To move from the research phase to clinical implementation, the agency administration had to make decisions in several areas: 1. How would we pay for the project? 2. Who would lead the project? 3. In which agency program should we start? 4. What procedural modifications would be required? 5. What additional staff would be needed, and how would they be trained? 6. What regulations would we be required to meet? 7. Would clients be interested in HIV testing without the additional perks of research? 8. How would we make changes to our program as the need occurred? Administrators considering adding a testing program are likely to face many of these questions.

1. Funding

LRADAC was able to launch its testing initiative through creative financing involving multiple sources of program support, including Ryan White funds, grant funds from the University of South Carolina and the state Health Department, and the research subcontract from the Medical University of South Carolina (via funding through the NIDA Clinical Trials Network). During the pilot phase of the project the agency responded to a Request for Proposals from the state Health Department that was specifically designed to enhance community-based HIV testing. The agency's experience with the CTN clinical trial allowed it to successfully compete for this funding, which was used for on-going salary support for one full time counselor assigned to the testing project. The funding received from the health department did not include all of the costs to LRADAC of the pilot implementation estimated using the ancillary cost study approach. The health department did not provide funding for pilot implementation start-up costs to adapt procedures, work with management team and regulatory authorities, and train new employees. These costs were estimated to be approximately $2,000. It also did not fund direct supervision costs, which were estimated to be approximately $4,600 during the pilot implementation period, nor did it fully fund overhead costs including program administration and occupancy costs.

2. Leadership

The success of any major programmatic change is largely dependent on leadership. The leadership for implementation of the HIV testing project came from a coalition of research and clinical management who decided to build immediately on the success of the clinical trial. With on-going salary support from the research contract, the study coordinator of the clinical trial assumed the role of the "change champion" and took the lead in the planning and problem solving to facilitate the transition from research to HIV rapid testing as a routine service. As a result of the successful implementation of the CTN HIV testing and counseling clinical trial, the "change champion" was able to demonstrate to management that many of the necessary resources were in place to move beyond research into clinical practice. LRADAC's administration also recognized that if implementation was to be delayed, some of the momentum and resources would be diverted elsewhere. In LRADAC's

case our champion fit Damschroder's description (Damschroder, Aron et al. 2009) of the type of "individuals who dedicate themselves to supporting, marketing, and 'driving through an [implementation]', overcoming indifference or resistance that the intervention may provoke in an organization." Our change "champion" enhanced front-line staff buy-in, established a process for ongoing feedback, developed multiple levels of community and agency support, designed a streamlined staff training, and developed a manual of operations consistent with agency policy and state requirements. When the "champion" transitioned out of the project, the agency was able to hire and train a new full time staff member specifically for the HIV testing project.

3. Choosing a pilot location

The agency decided to phase in an on-site testing program, starting with a pilot test in the 16 bed, 24 hour per day medically monitored detoxification program that admits approximately 860 clients per year. Nearly three fourths of the clients admitted for detoxification are alcohol dependent (Table 1).

4. Modifying HIV testing and counseling procedures

The transition from research to clinical implementation required modifying procedures and staffing patterns. In preparation for clinical implementation we identified and secured additional funding, hired and trained new staff, and developed new procedures. These implementation activities started while the clinical trial was still underway. One of the first steps was to assess the procedures used during the trial and plan changes based on our experience in trial implementation.

During the clinical trial, oral fluids were used for initial HIV rapid testing. If reactive, a finger-stick blood rapid HIV test was administered. We decided to change to only a finger-stick blood technology for clinical implementation. This modification was made to streamline the testing algorithm, minimize cost and minimize the likelihood of having a false positive rapid test result (Walensky, Arbelaez et al. 2008). One LRADAC study participant had a false positive test result during the implementation of CTN0032, and this contributed to the agency's decision to change testing methods. For clinical implementation we broadened the patient criteria for testing. During the clinical trial individuals who had received results of a test that was administered in the last 12 months were excluded. Recognizing that some clients may have engaged in HIV risk behaviors during the past 12 months the clinical implementation team decided to offer testing to all individuals regardless of their previous testing history. Clients who self reported to be HIV-positive were not offered testing in either the clinical trial or implementation project.

Changes were also required to the research counseling procedures. Trial participants were randomized to different counseling options, but in the clinical implementation all clients who accepted the offer for testing received RESPECT 2 counseling, based on the manualized intervention used in the clinical trial. During the pilot phase of implementation, we altered the timing of the counseling session from the previous research protocol. One of the research goals of the clinical trial had been to determine the impact of risk reduction counseling on a participant's decision to accept testing, and consequently the intervention was delivered prior to the offer of testing. For more efficient use of client and staff time, we decided to offer testing first in clinical implementation. If testing was accepted, we conducted the test and while the test was processing we conducted the counseling. . Other decisions on possible changes to counseling procedures were delayed until finalization of the results of CTN0032 (in preparation).

Another important step in the clinical implementation process was establishing procedures which would enhance the support of front line staff and integrate testing into the routine clinic activities. Clinical trial research assistants/HIV counselors conducted recruitment activities in every therapy group and interacted with every group therapy counselor, and recruitment was integrated with agency intake procedures. This interaction and collaboration improved the staff buy-in. Prior to clinical implementation the project leadership team held meetings with the staff of the detoxification program, and later with outpatient staff, to develop plans to implement HIV testing in those programs that would be similarly integrated. The planning process included discussion of the optimal time for approaching patients to fit into the activity schedules. The research team and the clinical staff jointly established a goal to approach and offer on-site HIV testing to every new admission. We believe that implementing HIV testing as a routine part of the agency service delivery contributes to the agency staff understanding and support for HIV testing and recommend that other agencies planning to implement a testing program follow this model.

5. Hiring and Training Staff

Like many substance abuse treatment agencies contemplating the addition of HIV testing services, we needed to answer the question, “Who should do the testing and counseling?” When LRADAC made its initial plans to implement testing in 2006, the agency had planned to train all of the adult clinical counselors to conduct HIV risk reduction counseling and testing. Through the experience gained in CTN0032, the impracticality of this approach became evident. As with any clinical intervention, the skill of the counselor and the counselor’s ability to quickly “connect” with a given client is key to the success of the intervention. In the clinical trial, the protocol was designed to ensure that the first discussion a client had about the offer of HIV testing came from the research staff. This approach using one or two “HIV specialist counselors” was so successful in the research phase that it was adopted for the clinical implementation. There was concern that if the clinical counselors introduced the offer of testing, there would be inconsistent messages given to clients, based on the knowledge and belief system of individual clinical counselors. It was also thought to be advantageous to obtaining the general support of the clinical staff if staff members were not asked to assume additional responsibilities. Consequently, we decided to make every effort to have all HIV-related interactions with clients come from the counselors whose primary job and job performance evaluation were based on the HIV testing program.

The state Health Department required very specific staff training for certification to conduct HIV testing. The training involved a lengthy process of attending courses that were available sporadically over approximately a six month period. Because the research team had received comparable training as part of the HIV rapid testing and counseling clinical trial they were approved to provide on the job training to new HIV counselors, reducing the time required to complete the training from approximately six months to less than one month. During this period of training the new part-time HIV counselor received didactic instruction, reviewed the operations manual, practiced the testing procedures and participated in role plays for various counseling scenarios. The new counselor also shadowed the counselor from the research team, and received close supervision from the study coordinator.

6. Abiding by state regulations

Although every state will have some regulations that are slightly different, many regulations will be similar across states. In South Carolina, the state Health Department requires all testing locations to have policies, procedures, and quality assurance to manage a testing program, and provides the potential testing sites with a manual template for agencies to modify as required for their site. The research team reviewed the template and determined it was designed more specifically for a medical setting, and consequently a thorough revision

of the manual was completed to make it more appropriate for a substance abuse treatment center. The state Health Department provided a readiness checklist that listed items, including trainings that were required to be completed prior to beginning testing. Other items on the checklist included a Clinical Laboratory Improvement Amendments (CLIA) certificate of waiver, memoranda of agreement with the state Health Department, exposure control plan, adequate storage area for supplies, adequate testing area, copy of disease reporting protocols as well as management and disposal contract for bio-hazardous waste. The majority of these items were already in place as a result of the site conducting HIV rapid testing and counseling in the clinical trial. Sites that have not gained experience through a clinical trial will want to seek consultation and technical assistance regarding regulations from an appropriate resource in their state or community. This might include the health department, the single state authority, or another agency currently implementing on-site testing.

7. Acceptance of HIV testing

Would clients be receptive to HIV testing without the compensation that was provided for their time and effort in the research study? During the detoxification pilot we were able to answer that question. We found that the majority of clients were eager and interested in receiving on-site HIV testing and counseling without compensation. From September 2009 through March 2010, 299 rapid test offers were made to detoxification patients, and 184 (62%) of these offers were accepted (Table 2). Of the 115 who declined, 69 (60%) cited having had a recent test as their reason for refusal. The racial and gender characteristics of clients accepting testing was consistent with the characteristics of the population served in detoxification.

8. Modifications

The detoxification pilot presented an opportunity for formative evaluation of the logistical implementation processes, which in turn allowed for appropriate adjustments and revisions. During the first several months of implementation, adjustments were made to the number of testing appointments and days per week that testing was available. Despite our initial planning and implementation successes, staffing challenges did arise. For funding related reasons, a counselor was shared between the HIV testing project and other grant funded projects being conducted in different locations in the city (Ryan White Clinic and the jail). As a result of competing project requirements, scheduling problems developed; and without a consistent presence on the detoxification unit by the HIV counselor, the number of detoxification clients offered testing declined as did the percentage of detoxification clients accepting testing. As a result of our experience attempting to share staff across projects, we recommend that agencies establishing a testing program dedicate a full time person to coordinate and implement the testing and counseling program, with back-up support from at least one other trained counselor.

Phase 3: Expanding from one Setting (Detoxification) to Multiple Settings (Outpatient and Detoxification)

Addressing other management issues

In moving from the pilot to implementation across the agency, management had additional administrative decisions to make, including evaluating agency policies and procedures for client fees and clinical documentation as those procedures would affect HIV testing and counseling. The research and management teams decided to maintain as closely as possible the procedures used in the research project and to reevaluate these practices at regular intervals after initial implementation. In keeping with procedures established during the

clinical trial, all testing and counseling documentation was maintained in a separate, confidential clinic record kept by the research/testing staff. This information was not incorporated into the primary clinic record, and agency clinical staff were not notified of testing results. To remove financial barriers to testing as well as to maintain confidentiality by not entering data into the agency billing system, the decision was made to not charge clients a fee for either testing or counseling. The agency's decision to allow separate testing records and to not bill the clients for testing or HIV counseling, allowed the implementation project to move forward without delays. Although this practice has worked well at LRADAC and would be our recommended procedure, each agency moving toward implementation of HIV testing will need to make policy and procedure decisions based on their state and local regulations.

Modifying procedures and staffing

The expansion of testing from the detoxification program to outpatient services presented a new set of challenges. The procedure for offering testing in outpatient services was repeatedly modified in our attempt to find an effective approach and adapt to funding constraints. The procedure we first tried followed the methods that had been successful in the clinical trial and the detoxification pilot in which outpatient clients would be approached individually and offered appointments for testing and counseling. During the clinical trial conducted in the outpatient program, a routine part of the intake process for every new patient was a meeting with the research assistant/HIV counselor and the offer of an opportunity to be in the study. This approach was labor intensive and required that the research assistant/HIV counselor be available for large blocks of time, and thus was thought not to be optimal for start up of the clinical implementation in the outpatient program. Consequently, the procedure initially agreed upon was to approach clients individually during the break in group therapy which is the predominant treatment modality at LRADAC. However, after a few months of implementing this approach without great success, a change was made and staff began approaching therapy groups as a whole, passing out flyers explaining the testing program, and giving telephone contact information. Although every effort is being made to offer testing to all outpatients, the percentage of acceptance has been below the acceptance level in the detoxification unit (Table 2). Beginning mid-July 2010, grant funds from the Health Department allowed the agency to hire a full-time counselor and, with the project fully staffed, the number of outpatients offered and accepting testing has begun to increase. We will continue to evaluate our procedures for offering testing in outpatient services and modify the approach based on feedback.

Quality Assurance (QA) procedures presented unanticipated challenges. Multiple layers of QA monitoring occurred during the research project and included reviews conducted by the research study coordinator, the Medical University of South Carolina (MUSC) monitor, and the NIDA CTN trial monitor. The QA plan for clinical implementation was not as structured. The research staff member who initially implemented the pilot testing program in the detoxification unit was accustomed to rigorous requirements for logs and documentation. The clinical staff members who were trained to assume the testing responsibilities, however, did not have the same level of training. During the clinical implementation phase of the project, the research study coordinator conducted a quality assurance review and discovered problems with compliance with procedures for signing out of test kits. As a result, some re-training was required, and a more formal chain of supervisory command and quality assurance program were put in place. We recommend that treatment programs incorporate clear and stringent QA monitoring of the HIV project into the agency-wide QA program, thus enhancing the level of structure and uniformity of processes. Additionally, training of HIV testing project staff should emphasize the importance of documentation and QA.

Planning for State-Wide Implementation

The experience of LRADAC has facilitated state-wide implementation, demonstrating the potential for downstream positive effects of successfully implementing evidence based practice in a single agency. South Carolina's initiative to implement on-site rapid testing in 10 pilot sites has had less than optimal success due to the absence of a successful model on which new sites could base their implementation plan. With support from the Clinical Trials Network, the Single State Authority, the state Health Department, and the regional Addiction Technology Transfer Center agency staff developed and presented a two and one-half day HIV counseling and testing curriculum in 2010 at the annual South Carolina School of Alcohol and Drug Studies. Following successful completion of the course, participants were fully certified to conduct counseling and testing in their agencies. The manual of operations, an amalgamation of the CTN research manual of operations and the state Health Department template manual of operations, was the basis for the course content. Course participants had the opportunity to learn the counseling and testing procedures that LRADAC staff found successful in implementing their programs. The Single State Authority plans to offer the training regionally with a goal of establishing testing programs in substance abuse treatment programs statewide.

Lessons Learned and Conclusions

The successful implementation of research findings into practice is dependent on multiple factors (Damschroder, Aron et al. 2009) related to the characteristics of the intervention and the individuals involved, the internal and external context of the agency, and the characteristics of the implementation effort. This conceptualization of predictive factors provides a useful framework for planning and evaluating the diffusion of innovations (Greenhalgh, Robert et al. 2004), and in this paper we have identified the elements that were critical to our success as well as how our experience may translate to other settings. Our organizational case study suggests that, although challenging, implementing HIV testing programs in substance abuse treatment programs is feasible for agencies and well accepted by clients. Agency administrators considering implementing a testing program will face the tasks of 1. identifying and securing funding, 2. hiring and training staff, 3. developing new procedures and 4. complying with regulatory requirements of their state.

Over the course of our first year of implementing HIV testing and counseling we learned several important lessons, from both our successes and mistakes (Table 3). One of the most important lessons the agency learned was that clients were receptive to the offer of testing, even without the compensation that was built into the research protocol. A second important lesson was the value of project leadership and persistent effort. The literature on organization change has consistently found that a "champion" for the proposed change can play an important role in project start up and successful implementation (Damschroder, Aron et al. 2009), and our experience bears out that principle.

Financial support for start up costs and program continuation is essential. Lessons learned in the areas of financing and cost include the need to ensure transitional funding to conduct a pilot implementation program, and recognition that this funding may not adequately cover costs for activities such as adapting the intervention, training staff, ongoing supervision and quality assurance, and overhead costs. Many substance abuse treatment agencies will need access to non-typical funding streams to support testing services, and state or national level technical assistance may be required for agencies to become familiar with and successful in accessing these funds. In LRADAC's case, the pilot implementation in the detoxification unit went smoothly, yet the plan to implement testing across the agency was delayed by funding interruptions and competing priorities.

Developing the wide array of procedures necessary for project implementation is a labor intensive process; however, the process could be expedited if administrators identify a template from an agency with similar operations. As noted by Greenhalgh et al, "if the knowledge required for the innovation's use can be codified and transferred from one context to another, it will be adopted more easily" (Greenhalgh, Robert et al. 2004). LRADAC's access to and familiarity with the manual of operations used in the clinical trial facilitated the agency's adoption of HIV testing and counseling. The research manual of operations was modified based on state health department regulations and clinic procedures and practice. Similarly, a template for addressing the state and local regulatory requirements would be helpful.

Finally, through our implementation experience at LRADAC, we learned that specific strategies are needed for offering testing in different service areas and that the success of those strategies must be continually evaluated. We learned that agency expectations for a number of clients tested must be adjusted based on changing staff resources. We discovered the importance of having designated staff for the project and the necessity for developing QA processes. In addition, we learned that establishing a clear chain of command for supervision of new program staff is essential to project success.

Dissemination, implementation and a learning environment

LRADAC's ongoing involvement with research has provided benefits to the agency in terms of direct financial support, staff training and exposure to national initiatives and cutting edge developments in evidence based practices. These research-related benefits have facilitated a positive collaboration between LRADAC management and research, resulting in an organization culture which supports innovation and treatment improvement. This environment encouraged LRADAC to take advantage of a collaborative network of support that included the CTN research resources, the Single State Authority for substance abuse treatment, and the state Health Department to implement an HIV testing program that has become a model for the state. Although the substance abuse treatment programs in South Carolina provide minimal, if any, medical services, their strong network based on common contractual requirements from the Single State Authority facilitate the sharing of information and expertise across the provider system. Consequently, when one agency successfully adopted the HIV rapid testing intervention used during its participation in a clinical trial, successful methods were put in place for transferring that intervention broadly to other providers in the state. The result will be dissemination and adoption of an important evidence-based HIV prevention strategy that will benefit a large number of substance abuse treatment clients and the public health.

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Biographies

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Daniel J. Feaster, Ph.D., is an Associate Professor of Epidemiology and Public Health in the Division of Biostatistics at the University Of Miami Miller School Of Medicine. He has extensive experience in design, implementation and analysis of large longitudinal studies, including clinical trials for HIV-positive and drug abusing populations. He has worked with NIDA's Clinical Trials Network since 2000. His interests include multilevel statistical models for the evaluation of clinic characteristics on individual behavior.

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Leslie Wilson, M.A., is Vice President of Intervention and Treatment Services at LRADAC, a non-profit substance abuse prevention, intervention and treatment authority in South Carolina. A NAADAC certified addictions counselor with a master's degree in Rehabilitation Counseling she has twenty years of management and leadership experience in programming for adults and adolescents. She was a pioneer in the development of substance abuse and HIV programs with the Ryan White program and has led the field in SC for special populations (corrections, juvenile justice, mental health and social service programming).

Lisa R. Metsch, Ph.D., is Professor of Epidemiology and Public Health at the University Of Miami Miller School Of Medicine. For the past 16 years, her research has focused on primary and secondary HIV prevention. She is principal investigator on several NIH-funded epidemiologic and clinical studies to develop and test strategies to reduce HIV transmission and increase use of HIV care among persons living with HIV. She is the co-principal

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Table 1

Overall Client Characteristics at LRADAC

Presenting Problem Sept 9, 2010–Jul 1, 2010	**Detoxification Unit N=613**	**Outpatient N=507**
Alcohol	71%	46%
Stimulants	10%	21%
Opiates	14%	5%
Marijuana	<1%	26%
Other	4%	2%

Table 2

Phases of HIV Testing Project Implementation: Client Characteristics, Testing Acceptance, and Cost

	Phase 1-CTN 032 LRADAC (enrollment) Jan '09 – May '09	**Phase 2-Pilot Implementation (detox pilot) Sept '09 – March '10**	**Phase 3-Full Implementation (detox and outpatient) April '10 – July '10**
	N=115	**N=184**	**N=107**
Client Characteristics			
Black	50%	49%	65%
White	39%	45%	32%
Mixed	8%	1%	0%
American Indian/Alaskan Native	1%	2%	0%
Other	2%	2%	3%
Hispanic	3%	1%	3%
Female	44%	33%	34%
Testing Acceptance			
Test offered	*	299	197
Acceptance Rate	*	184/62%	107/54%
Cost			
Cost/Compensation to client	No Cost/$35 compensation for baseline assessment	No cost/no compensation	No cost/no compensation

* No comparable data from clinical trial

Table 3

Summary of Lessons Learned

Phase 2 – Pilot Implementation (detoxification unit)
Importance of a “champion”
Importance of front line staff buy-in
Staff training could be successfully streamlined
The necessity of multiple levels of community and agency support
The majority of detoxification clients accepted the offer of testing and counseling
Need for on-going feedback to improve procedures and address emerging barriers Ensure transitional financing to conduct a pilot implementation program
Recognize that some staff time may not adequately be reimbursed by funding sources for activities such as adapting the intervention, start-up training, ongoing supervision and quality assurance, and for overhead costs
Phase 3-Full Implementation (detoxification unit and outpatient)
A strategy for integrating the offer of testing into routine clinical practice must be specific to the service area and patient flow for that area
Expectations of number of clients tested must be modified based on changing staff resources available for the project
Sharing staff across multiple projects may result in decreased emphasis on and efficiency of the on-site testing project
Quality assurance procedures are essential
A clear chain of command for supervision of a new program and staff is necessary