Researcher in Residence Program: Improving Treatment Practice in North Carolina

June 2002

Sponsored by:
National Institute on Alcohol Abuse and Alcoholism (NIAAA), National Institutes of Health

Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration

In Cooperation with:
North Carolina Department of Health and Human Services, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMH/DD/SAS)

Prepared by:
Michael E. Hilton, Ph.D., NIAAA

CONTENTS

EXECUTIVE SUMMARY

The Researcher in Residence program encourages the adoption of research-based improvements in alcoholism treatment practice. It does this by inviting prominent researchers to make brief, technical assistance visits to selected alcoholism treatment clinics. During these visits, the visiting scientists present information about specific, research-based practice improvements. Providers then try to adopt these improvements as a routine part of care.

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Having been pioneered successfully in New York in 2000, the Researcher in Residence program was offered again in North Carolina in 2001. Research scientists visited four North Carolina treatment clinics with the goal of providing technical consultation about the adoption of either motivational enhancement techniques or naltrexone pharmacotherapy.

A series of post-visit, qualitative interviews produced the following conclusions:

1. A program of brief technical consultation can stimulate practice improvement in alcoholism treatment clinics.

2. The on-site format of the program contributed to its success.

3. Careful selection of the visiting researchers and the hosting clinic directors contributed to the program's success.

4. A greater amount of technical assistance was needed to stimulate the adoption of motivational enhancement techniques than to stimulate the adoption of naltrexone pharmacotherapy.

5. The program did a good job of initiating change in treatment practice, but additional assistance would be helpful for maintaining that change.

6. As a site for introducing a treatment improvement, an inpatient site has several advantages, but it also raises the problem of whether the target practice improvement can be maintained as clients move to outpatient status.

7. Flexibility in the design and schedule of researcher visits helped the program succeed.

INTRODUCTION

The Researcher in Residence (RiR) program encourages the adoption of research-based improvements in alcoholism treatment practice. It does this by inviting prominent researchers to make brief, technical assistance visits to selected alcoholism treatment clinics. During these visits, the visiting scientists present information about specific, research-based practice improvements. Providers then try to adopt these improvements as a routine part of care.

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Having been pioneered successfully in New York in 2000, the RiR program was offered again in North Carolina in 2001. Research scientists visited four North Carolina treatment clinics with the goal of providing technical consultation about the adoption of either motivational enhancement techniques or naltrexone pharmacotherapy.

This report documents the lessons learned from the project in North Carolina. (A similar report documented the project's progress in New York last year [NIAAA 2001].) The report asks whether practice improvements were adopted following the researcher visits. It also identifies factors that helped or hindered the adoption of practice improvements. Finally, it offers recommendations for improving the program.

The report is a set of case studies. It is based on open-ended interviews of the participating clinic directors and their staffs that NIAAA conducted during post-intervention site visits. This is qualitative reportage only. However, an informal assessment is appropriate for a small, pilot program.

BACKGROUND

Reducing the gap between those who provide treatment and those who conduct research is a pressing concern (Brown 2000). The Institute of Medicine's report *Bridging the Gap Between Practice and Research: Forging Partnerships with Community-Based Drug and Alcohol Treatment* concluded that:

> Despite the great strides made in research on the etiology, course, mechanisms, and treatment of addiction, serious gaps of communication exist between the research community and community-based drug [and alcohol] treatment programs. Closing these gaps will not only be critical to improving drug and alcohol treatment, but will also be important to improving the nation's public health. (Lamb et al. 1998; p. 1)

This gap is disturbing to several parties. To federal agencies that fund treatment research, it represents the frustration of a core purpose—the improvement of treatment by advancing scientific

knowledge. To treatment providers, it represents the frustration that research studies sometimes appear misdirected or unlikely to yield results of practical utility.

A number of approaches to bridging the gap have emerged. Printed information about research findings can be found in such publications as CSAT's *Treatment Improvement Protocol* series.[1] CSAT's Addiction Technology Transfer Centers provide dissemination centers for such printed materials. Person-to-person dissemination can occur at research-to-practice conferences, which are sponsored by many agencies. One example is the series of Research to Practice Forums sponsored by NIAAA and CSAT. These are statewide symposia at which research scientists discuss recent findings before provider audiences.

Another innovative approach is the National Institute on Drug Abuse's Clinical Trials Network, which began as a system to encourage the participation of nonacademic treatment centers in multisite clinical trials (www.nida.nih.gov/CTN/index.html). The Network tries to blend research priorities that come from academia with those suggested by providers.

CSAT's set of 14 Practice Improvement Collaboratives builds long-term partnerships between providers and researchers. It creates locally based coalitions that include both providers and researchers. By working together in these coalitions, providers should be able to participate more directly in the design of research projects, whereas researchers should gain a better understanding of the research needs expressed by providers. The Practice Improvement Collaboratives try to build long-term collaboration between researchers and providers, in contrast to the RiR program, which offers a briefer encounter.

In its National Treatment Plan, CSAT describes a national "Connect Services and Research System" that would facilitate the adoption of research findings into practice as well as the incorporation of provider needs into research agendas (CSAT 2000). Details of the system are still under development.

All of these efforts are thoughtful responses to the research-practice gap and as such are to be encouraged. It is too early to say which approach will prove most effective. Time and experience will probably show that some combination of approaches holds the most promise.

Against this background of diverse approaches, the RiR program has some characteristic features. It creates individual partnerships between providers and researchers. In doing so, the program has a degree of flexibility and nonstandardization. The researcher travels to the participating clinic to deliver the technical assistance, rather than asking the clinicians to gather off-site for instructional presentations. As the discussion below will indicate, this has important consequences for the program's effectiveness. The program is also characterized by a relatively small "dose" of intervention. Only a few 1- or 2-day visits are made. Finally, the RiR program matches the best with the best, the best research scientists with the most innovative clinicians. It was designed as an "optimal conditions" exercise. If NIAAA and CSAT could not stimulate practice improvement by putting the leading providers and researchers together, then the field's prospects for bridging the gap would be dim indeed.

[1] Monographs from this series on naltrexone administration (O'Malley et al. 1998) and motivational enhancement (Miller et al. 1999) were used to good effect in the RiR project.

Some important limitations of this approach should be acknowledged. First, the "best-on-best" strategy limits the number of eligible researchers. There are only a few researchers knowledgeable about any one emerging practice improvement. An even smaller number of these candidates have the critical ability to convey their ideas convincingly to frontline clinicians. Fortunately, the program has thus far been successful in recruiting leading researchers who are also good communicators. However, the program cannot be repeated too many times before it runs through the pool of eligible researchers. A long-term answer to this problem has not yet emerged.

Similarly, the participating clinic directors[2] were a select group of the most innovative providers. It is not clear, in the larger scheme of things, how well approaches used here might function in more average clinics (where practice improvement is also needed). Furthermore, this program only affected four clinics in the entire state. How to move beyond a few, carefully chosen sites toward a broader, statewide program of practice improvement is by no means clear. Despite this uncertainty, DMH/DD/SAS has made practice improvement a statewide priority for which it should be commended.

Finally, one needs to acknowledge that bridging the gap is a two-way street. While there is need to stimulate the adoption of research-based practice improvements, there is also need to establish research priorities that reflect providers' needs. The RiR program was designed and conducted primarily to operate along the research-to-practice arm of this dialectic. Indirectly, the program has provided insights for the participating researchers, but NIAAA needs to look to other initiatives to strengthen the practice-to-research arm.[3]

PROJECT ACTIVITIES

Initial contact with Flo Stein, Chief of the Substance Abuse Services Section, North Carolina Department of Health and Human Services, DMH/DD/SAS, was made in the summer of 2000. She and her staff met with NIAAA and CSAT staff in Rockville, Maryland, in September to plan the project.

Ms. Stein's office selected the four participating sites on the basis of management capacity and previous record of innovative service delivery. The office also selected the target practice improvements for each site. These were the adoption of motivational enhancement techniques in therapy and the use of naltrexone pharmacotherapy. DMH/DD/SAS decided that two sites would implement the former and two the latter. NIAAA staff then recruited four visiting scientists, two with expertise in each assigned topic. Fortunately, some of the field's best researchers agreed to participate. Table 1 displays the sites, target interventions, clinic directors, and visiting scientists that were chosen.

[2] This report uses "clinic director" as a generic term for the member of the provider staff who took the lead role in the project at each site (see Table 1). The term is not strictly accurate since some of these lead persons had official titles other than director.

[3] One step in this direction was a working group titled "Research Priorities Suggested by Providers," which NIAAA convened in April 2002 to collect providers' recommendations for the Institute's research agenda.

Table 1. Researcher in Residence Sites

Clinical Site	Lead Participating Provider	Visiting Researcher	Intervention Topic
Greenville, NC Walter B. Jones Alcohol and Drug Abuse Treatment Center	John Holter, M.D. Staff Physician and Director of Laboratory Services	Robert Swift, M.D., Ph.D. Brown University, VAMC	Naltrexone Pharmacotherapy
Raleigh, NC Wake County Human Services Alcoholism Treatment Center	Roy Nickell, A.C.S.W. Director, Substance Abuse Services	Betsy McCaul, Ph.D. Johns Hopkins University School of Medicine	Naltrexone Pharmacotherapy
Wilmington, NC Southeastern Center for Mental Health, Developmental Disabilities, and Substance Abuse Services	Ginny Gorman, M.A., L.C.S.W., C.C.A.S. Substance Abuse Program Director	Carlo DiClemente, Ph.D. Department of Psychology University of Maryland, Baltimore County	Motivational Enhancement
Winston-Salem, NC CenterPoint Human Services	David Abernethy, M.A., Ed., C.C.A.S., C.C.S., M.A.C. Substance Abuse Services Manager	Allen Zweben, D.S.W. School of Social Welfare University of Wisconsin, Milwaukee	Motivational Enhancement

A meeting to start the project was held at NIAAA's Rockville offices on February 23, 2001. Participants included all participating clinic directors and visiting scientists as well as staff from CSAT, NIAAA, and DMH/DD/SAS. Dr. Enoch Gordis, Director of NIAAA; Dr. H. Westley Clark, Director of CSAT; and Ms. Stein were present to endorse the project. Most important, however, this initial meeting introduced each clinic director and visiting researcher to each other so they could begin to form a personal partnership. Each of these pairs then began to plan the content and schedule of the visits to come.

The RiR project was initially conceived as a single technical assistance visit. However, many of the provider-researcher pairs in the New York phase of the project requested and were allowed to make a second visit. In some cases, the requested second visit was a booster visit. The booster visit was designed follow the main visit and provided an opportunity to review particular case experiences and troubleshoot problems that arose in the first months of implementation. In other cases, the second visit was scheduled before the main intervention visit. Its purpose was to familiarize the researcher with the clinic and its operations so that the intervention material could be better tailored to the audience. The New York experience indicated that both strategies were helpful. Therefore, in North Carolina, the provider-researcher pairs were given instructions that they could make two visits, scheduling them in any way they wanted. Three of the four pairs eventually requested a third visit; hence, the modal schedule for the RiR project in North Carolina consisted of three visits. The first visit was a short, one-day familiarization visit. The second visit, which lasted either one or two days, delivered the bulk of the technical assistance. The third was a booster visit to reinforce lessons learned and troubleshoot problems in implementation. Between visits, providers and researchers made several telephone and e-mail contacts to further develop their plans.

Flexibility was also allowed in the time frame of these meetings. The initially proposed schedule called for familiarization visits between April 15 and June 15, 2001, and main intervention visits between May 15 and June 15, 2001. As requests for booster visits came in, they were generally planned for August through October. The events of September 11, 2001, disrupted some of these plans. In one case, the booster visit was delayed until December 5, 2001. In another case, the booster visit was cancelled altogether.

After all three visits had been held, NIAAA staff scheduled a site visit at each clinic. The NIAAA staff were accompanied by Doug Baker, Director of Adult Services and Institutional Management, North Carolina Department of Health and Human Services, DMH/DD/SAS, which gave the Division an opportunity to monitor the project's results. Some of the site visits and researcher visits were also observed by Dr. Barry Brown, Professor, University of North Carolina at Wilmington, a recognized expert on research-to-practice issues, who resides in the state. Dr. Brown accepted an invitation to give some informal consultation to the project, for which NIAAA, CSAT, and DMH/DD/SAS are grateful.

The site visits typically consisted of a series of interviews with the clinic director, with senior staff such as physicians and clinical supervisors, and with line staff.[4] They aimed at answering four questions: whether the target improvement was adopted as planned, what factors of the RiR program were especially helpful in promoting adoption, what barriers to adoption were experienced, and how the program could be improved. These unstructured interviews were recorded and form the basis of this report.

[4] The schedule for these site visits appears in Table 2.

The report now separates into four case studies. These are followed by a concluding section that collects common themes that emerged across sites.

CASE STUDIES

Greenville, NC; Walter B. Jones Alcohol and Drug Abuse Treatment Center

The Walter B. Jones Alcohol and Drug Abuse Treatment Center provides publicly funded, residential services for 38 counties in eastern North Carolina.[5] Clients who need a greater level of care than can be provided by community mental health centers in that catchment area are referred to Walter B. Jones. These clients receive inpatient stays averaging 21 days.[6] Upon completion, clients are referred back to the local community mental health centers from which they came for continued outpatient care. The program currently has a 76-bed capacity.

A range of treatment programs are offered, including substance abuse treatment, mental health care, medical care, family counseling, and vocational rehabilitation. Specialized services are offered to deaf clients, HIV-positive clients, women, and perinatal patients who have infants boarding in their rooms. Individualized treatment plans are developed for each client.

The lead clinician in the RiR effort was John Holter, M.D., staff physician and Director of Laboratory Services. In addition to Dr. Holter, three physician-assistants screened patients and introduced them to naltrexone. Supportive assistance from nurses and substance abuse counselors helped create a consistent, clinic-wide message that patients who could benefit from naltrexone should be placed on it.

The visiting researcher, Robert Swift, Ph.D., of the Brown University Center for Alcohol and Addiction Studies and the Brown University Veterans Affairs Medical Center, made a preliminary visit to familiarize himself with the site on April 25, 2001. Site visit reports indicated that this familiarization visit was valuable for making introductions, establishing expectations, and tailoring the intervention visit to the needs of the site.

The second visit, at which the main intervention was delivered, occurred on May 9–10, 2001. Although a booster visit was originally planned, it was cancelled in the wake of the September 11, 2001, events. A schedule of visits to all sites appears in Table 2.

The Walter B. Jones medical staff had previous experience with naltrexone, having participated in an observational study of its side effects. This previous exposure had not led the staff to use naltrexone in practice. In fact, the experience predisposed the staff against naltrexone because a large fraction of patients had reported unpleasant side effects (principally nausea). Thus, despite previous experience with the drug, senior medical staff were inclined toward skepticism about the drug's utility when the RiR project started.

[5] In addition, Walter B. Jones accepts perinatal referrals from 21 additional counties and provides all the state's services for deaf or hard-of-hearing clients.

[6] Length of stay is variable depending on severity of condition.

Table 2. Schedule of Visits

Clinical Site	Familiarization Visit	Main Intervention	Booster Visit	Site Visit *
Greenville, NC Walter B. Jones Alcohol and Drug Abuse Treatment Center	April 25, 2001	May 9–10, 2001	Cancelled	November 28, 2001
Raleigh, NC Wake County Human Services Alcoholism Treatment Center	March 26, 2001	May 22–23, 2001	December 2, 2001	January 11, 2002
Wilmington, NC Southeastern Center for Mental Health Developmental Disabilities, and Substance Abuse Services	None (Accomplished by Conference Call)	June 11–12, 2001	September 28, 2001	October 30, 2001
Winston-Salem, NC CenterPoint Human Services	April 11, 2001	July 25–26, 2001	August 29–30, 2001	October 17, 2001

* This visit made by NIAAA and DMH/DD/SAS. All other visits made by visiting researchers.

Despite this initial skepticism, Walter B. Jones had considerable success in adopting naltrexone use. By the time of the site visit, 214 patients had been identified as eligible to take naltrexone. Of these, 96 (or 45 percent) were prescribed the drug and were still taking it at discharge. This should be compared to no prescriptions for naltrexone before Dr. Swift's visits. By the time of the site visit, it had become routine to screen all incoming patients for naltrexone therapy, which was subsequently recommended whenever appropriate. This change in clinical practice appears to be durable. None of the staff reported expectations that the clinic might discontinue naltrexone pharmacotherapy.

High on the list of factors mentioned as helpful in achieving practice change was the communication skill of the visiting researcher and his experience of having treated hundreds of patients with the drug. This enabled him to provide specific remedies for patient nausea, which was of particular concern at this clinic.

Throughout the follow-up interviews, staff mentioned that a one-page treatment plan document, developed by the staff physician, provided a key template to guide change. The plan listed the objectives of the pharmacotherapy, talking points to be used in introducing the medication to clients, side effects, pain control instructions, contraindications, liver-function test results, and dosage standards. This document is reprinted in the appendix for the benefit of other clinicians who may want to use it (courtesy of John Holter, M.D.).

The director made extensive preliminary preparations for the researcher's visit, included all elements of the staff in a coordinated effort, and projected his own enthusiasm for the effort. Indeed, several staff members reported that it was hard to pick out factors that impeded practice improvement because, "Once we decided to take on this project, we just did it."

There were no financial constraints to adoption, at least within Walter B. Jones. The clinic absorbed the cost of the medication and the cost of the additional liver-function tests in its operating budget. This was estimated to be a $12,000 to $15,000 expense. Similarly, 15-minute increases in the time needed for client-physician assistant appointments were absorbed without noticeable difficulty.

Staff turnover touched Walter B. Jones but did not affect the outcome appreciably. The executive director of the clinic left for other employment midway through the RiR project, but as he had delegated leadership of the project to the staff physician, this had little effect on the project.

Staff also reported that the "dose" of the intervention was about right. They reported that the two brief visits by Dr. Swift (familiarization visit plus main intervention visit) gave them enough background to try out the practice change. This happened despite the cancellation of a third visit that originally had been planned as a booster session.

Finally, and as per DMH/DD/SAS's original intent, the inpatient environment proved a good setting to promote naltrexone use. The improvement was facilitated by the presence of medical staff, who were needed to screen patients, monitor liver-function tests, and prescribe the medication. Compliance was easily monitored by the nursing staff. In short, the inpatient setting offered many advantages that increased the chances of successful adoption.

However, in the nature of a classic contradiction, the inpatient setting also contained some limitations that interfered with success. The average length of stay at Walter B. Jones is 21 days. However, the recommended course of naltrexone administration is 90 days. Thus, for the full therapy, patients would need to renew their prescriptions at the community mental health centers to which they were referred after discharge.

A concern mentioned throughout the site visits was that patients probably did not continue taking naltrexone after discharge. Staff widely suspected that their public-treatment clients would not be able to afford the medication, which they would have to pay for after discharge. Indeed, Walter B. Jones receives very little information about its clients after discharge. They have, for example, no consistent way of knowing whether these clients keep their outpatient referrals, let alone if they continue receiving medication. Because of this, staff were concerned about the ethics of starting clients on a course of therapy that they might not have been able to complete.

Both the clinic director and the visiting researcher tried to wrestle with this problem. They sought ways of drawing physicians from the outpatient programs into the practice improvement exercise and approached a major pharmaceutical manufacturer about reduced-price access to the drug. But, ultimately, they were not able to push either agenda very far.

Thus, some important lessons learned from this case study were: (1) An inpatient setting provides a supportive environment for initiating a practice improvement involving pharmacotherapy; (2) such an initiative can be successful; (3) this success is bound to raise wider issues of practice change among a wider set of outpatient clinics to which the inpatient clinic is connected; and (4) achieving practice change among this wider group will call for a larger effort.

The third and fourth comments above point to a more abstract principle that merits discussion. Adopting a practice improvement involves changing a system, a system consisting of the host clinic, nearby treatment clinics (which may treat many of the same clients), and other social services agencies that also interact with those clients. All are bound up in an interrelated set of activities. Changing the practice at any one point in the system creates inconsistencies and therefore stresses in relations with nearby points in the system. Pressure builds to reduce this inconsistency either by retreating from the practice improvement or by making similar changes (i.e., adapting the practice improvement) elsewhere in the system. Which path is taken becomes critical to the fate of generalized practice improvement; the former leads to abandoning the effort, while the latter can be managed to create widespread system change (adoption of the practice improvement at all clinics throughout the system). Although the task of promoting system-wide change is daunting, one can be encouraged by an observation that has been evident throughout our RiR experiences (in both North Carolina and New York). Successes in small-scale efforts at practice improvement have consistently increased the participants' appetites for making additional practice improvement attempts.

Raleigh, NC; Wake County Human Services Alcoholism Treatment Center

The Wake County Human Services Alcoholism Treatment Center is the sole public provider of comprehensive alcoholism treatment services for a large, urban county. These services include patient evaluation, medically supervised detoxification, inpatient care,

outpatient care (offered at more and less intensive levels), psychiatric services, family counseling, relapse prevention, case management, and specialized programs for women, pregnant and postpartum women, African American men, DWI offenders, and persons on parole or probation. Most of Wake ATC's inpatient clients are referred upon completion to one of its own outpatient programs. (The significant exception is patients requiring assisted housing, which Wake ATC does not offer.)

In addition to federal block grants, Wake ATC's services are supported by revenues from the Wake County Alcoholic Beverage Control Board, which has a retail monopoly on wine and spirits sales. This gives Wake ATC a more stable base of financial support than most clinics.

The visiting researcher, Betsy McCaul, Ph.D., from the Johns Hopkins University School of Medicine, made an initial visit to familiarize herself with Wake ATC and its staff on March 26, 2001. As at other sites, this familiarization visit was rated as helpful in planning the main intervention delivery visit.[7] At that visit, presentations were given to physicians, nurses, and counselors. These were followed by discussions of staff roles, message targeting, and implementation planning.

A booster visit was originally planned for September 19, 2001. However, this was interrupted by the national tragedy of September 11, 2001, and the booster visit could not be rescheduled until December 5, 2001. NIAAA staff were concerned that the delay might cause a loss of momentum in the RiR program. However, there was no evidence of this in the site visit interviews, where consistent attention to the program was reported. Therefore, NIAAA and CSAT should continue to take a flexible approach to RiR scheduling, letting events mature at each site on a pace that the provider-researcher pairs think best.

The overall amount of the technical assistance was consistently judged to be about right for the naltrexone intervention. In addition, the booster visit—even one that was considerably delayed—was rated as valuable. Staff felt that these booster sessions made three important contributions: (1) They made it easier to keep staff "on task" with their intervention efforts when they knew that the researcher would return to check up on progress; (2) they provided support, reinforcing staff for taking on a practice improvement; and (3) they provided guidance in resolving problems that arose in early implementation attempts.

Staff felt that it was easier to keep "on task" with their intervention efforts when they knew that the researcher would return to check up on progress. It is recommended that future RiR programs retain this booster visit.

Evaluating the project's effectiveness is complicated by the fact that the clinic had already been making some use of naltrexone prior to the researcher's visits. About 5 years earlier, Dr. John Howie, staff physician for Wake ATC's inpatient unit, heard about naltrexone and began prescribing it to his patients. This creates a problem for evaluating the RiR project's effectiveness in stimulating practice change. Normally an evaluation would rest on a contrast between no use prior to the visits and some use after the visits. But in this case, the goal was to deepen and expand the use of a therapy that the clinic already employed. Notwithstanding this complication, there were clear signs that the program was successful in expanding Wake ATC's

[7] See Table 2 for a schedule of visits.

use of naltrexone. Where previously a single staff physician had prescribed the medication, now five staff physicians were doing so. Where the prescribing physician had previously acted alone, the clinic now had a coordinated effort in which nurses and counselors also supported the therapy, giving clients a consistent message. Modules to discuss naltrexone were incorporated into the client curriculum at several points; they were built into weekly patient sessions with both nurses and counselors as well as into family education groups. The overall effect was an estimated 50 percent increase in the number of naltrexone prescriptions written compared to previsit levels. This is sufficient evidence to conclude that the RiR program had considerable success in expanding the use of naltrexone at Wake ATC.

The clinic established a secondary goal of improving client retention across the inpatient-outpatient transition. The concern was like the one at Walter B. Jones. Inpatient stays only lasted an average of 10 days at Wake ATC. There was, therefore, a need for patients to continue taking naltrexone as they moved to outpatient status. In Wake ATC's case, most of the clients passed into Wake ATC's own outpatient programs. Despite this arrangement, Wake ATC did not have much information about how many of its inpatient clients successfully made the transition. The suspicion was that the percentage of clients lost was high.[8] The Wake ATC staff were anxious to find ways of improving the retention rate.

Two approaches to improving retention were tried. One was establishing an Alumni Group, composed of clients who had left inpatient treatment but had not yet been enrolled in outpatient services. This would allow inpatients continued contact with Wake ATC while they waited for their outpatient programs to begin. The second was incentives for attending the first few outpatient meetings. These incentives were generally small prizes donated by local merchants.

The researcher's experience with similar incentive programs was reported as valuable during the site visits.

As of the site visit, Wake ATC staff were still building the incentive program. Prizes such as personal care products, t-shirts, and video rental certificates had been solicited from local businesses. However, it was too early to tell what the incentive program's impact on retention would be.

The main conclusion at Wake ATC was that the RiR program significantly strengthened the use of naltrexone at the clinic. The results also show how a naltrexone intervention in an inpatient setting, though successful, inherently focuses concern on the continuity of patient contact as clients transition between inpatient and outpatient care.

Another observation was that there were no financial barriers to the adoption of naltrexone therapy. Du Pont (the company holding the original patent on the medication) had a program for making naltrexone available to indigent patients. Wake has used this program all along to obtain its supply of the drug. Patients fill out a form attesting their lack of resources,

[8] A 2- to 3-week wait is sometimes necessary before an outpatient appointment can be made for a patient leaving inpatient care.

and the company sends a supply of the medication (in three 30-day allotments) to the clinic. These are distributed to the patients.[9]

Finally, Wake ATC was able to absorb the expense of additional physician time and liver-function tests. Regarding the former, the RiR program fortuitously coincided with the hiring of a new staff physician, who helped share the burden. The more general point would be that resources are needed to support practice improvements. DMH/DD/SAS's new Centers of Excellence program shows the state's recognition of this need. The program will provide extra resources to selected centers, which are then expected to serve as models of practice improvement.

Wilmington, NC; Southeastern Center for Mental Health, Developmental Disabilities, and Substance Abuse Services

Southeastern Center for Mental Health, Developmental Disabilities, and Substance Abuse Services is a nonprofit, public agency that provides services to residents of a three-county area surrounding Wilmington, North Carolina. The practice improvement selected at Southeastern was motivational enhancement (ME). The effort was led by Ginny Gorman, Southeastern's Substance Abuse Program Director. Southeastern Center tried to incorporate ME in three of its operating units: the Tri-County Substance Abuse Center, a standard, outpatient clinic; DWI and Criminal Justice Services, which provides substance abuse services for offenders; and the New Visions Program, a substance abuse clinic serving pregnant women and women with children. All three are outpatient programs.

In contrast to the other sites, the provider-researcher pair elected not to conduct a familiarization visit. Instead they relied on telephone conference calls to make initial contact with the staff and plan the intervention. Two intervention visits followed, a 2-day visit to deliver the main dose of technical assistance and a booster visit to review progress and resolve problems that emerged during implementation.[10] Between visits, the researcher, Dr. Carlo Di Clemente of the University of Maryland, Baltimore County, made himself available for telephone consultations on specific problems.

The first visit began with a presentation of background material and an overview of the ME technique. This was followed by role-playing exercises. The approach was that the visiting expert would present the general principles of ME and then challenge the staff to design applications appropriate for each clinic. The researcher reported that the staff were well prepared for his visit. The CSAT Treatment Improvement Protocol *Enhancing Motivation for Change in Substance Abuse Treatment* (Miller et al. 1999) had been distributed and studied in advance. Also, most staff members had had some exposure to ME sometime during their training. All of this, combined with high staff capability, was reported as helpful in facilitating adoption. Another report given at the site visit was that the role-playing was especially helpful in demonstrating the researcher's experience with specific cases of applying the technique. As in

[9] Note that it is not necessary for outpatients to obtain a new prescription. They must merely keep in touch with the outpatient program so they can pick up their second and third allotments at the pharmacy after the first runs out.

[10] See Table 2 for a schedule of visits.

other cases, the researcher's ability to relate specific cases from personal experience was the key to credibility and effectiveness.

The visiting researcher made a second visit on September 28, 2001. He presented training modules on more advanced techniques in the TIP manual (such as double-sided reflection) and troubleshot problems that arose during early implementation. Staff reported this booster session to be very helpful.

Note that good results were achieved (in both North Carolina and New York) without standardizing the content of the RiR visits. This was true for visits that tried to stimulate ME as well as those targeted on other practice improvements. Since all of the researchers were experienced instructors and since each clinic director had the best grasp of his or her clinic's needs, a flexible approach worked well. The RiR does not need to develop a standardized intervention protocol.

At Southeastern Center the RiR program was a success at increasing the use of ME techniques. Counselors consistently reported that they were using ME techniques in their groups, most of these counselors had experienced successful results after using the approach, and they reported their intention to continue incorporating the approach into their work. In particular, counselors in the women's program felt that ME filled a previously perceived need to use a less directive approach with female clients.

Several program changes made at Southeastern Center show that institutional adjustments were made to incorporate ME. A new, two-session Orientation Group based on ME principles was established (at a counselor's initiative) for clients deciding whether to enter treatment. Client screening sessions were expanded from a half hour to a full hour to allow more time for evaluating treatment readiness. The menu of service options in the third phase of the women's program was expanded to allow for greater patient choice, which should enhance patient engagement.

Counselors also reported that the brief, two-visit format provided them enough background to try out the ME approach. However, it was also reported that more researcher visits would have been helpful to strengthen their knowledge. One conclusion that these reports suggest is that motivational interviewing is a more complex practice improvement than naltrexone therapy, one that is more difficult to implement.[11] We might conclude that the three-visit format is probably an effective minimum dose of technical assistance for the RiR program, but that more complex interventions, such as ME, might need a larger number of visits. We cannot tell, from our RiR experience so far, how many more visits might be optimal.

Expanding the number of visits will entail problems. It will be more difficult to recruit researchers to the program if demands on their time are increased. One possible solution emerges from the recognition that initiating change for practice improvement is not the same as maintaining change. A senior researcher has the prestige that commands attention and helps the clinic focus its attention on initiating change. However, a more junior colleague might suffice to keep change going. NIAAA and CSAT could reduce the program's burden on senior researcher

[11] This was suggested by last year's experiences in New York and was even more strongly apparent in the experience at Winston-Salem.

time, yet expand the number of visits offered, by dividing the task between more senior and more junior researchers. A more senior researcher might be invited to make the first intervention visit, while a more junior colleague could handle the subsequent visits. An alternative strategy is that States could be asked to supply some resources for long-term consulting by more junior researchers to bolster change initiated by the shorter-term RiR visits by senior researchers. Where a relevant research expert is not a good communicator, the clinical supervisor working on the research team might be a good choice for the visiting expert role. NIAAA and CSAT should consider all of these approaches.

Several factors contributed to successful practice improvement at Southeastern Center. As at other sites, the ability of the researcher was rated as critical, especially the researcher's ability to bring his own clinical experience to bear. Support for practice adoption by management was also important. This support was especially evident in encouraging counselors to read the study materials prior to the researcher's visit. A final advantage was that many staff already had familiarity with the ME approach. The RiR visits were able to activate some latent familiarity with the basic concepts and translate them into use.

Winston-Salem, NC; CenterPoint Human Services

CenterPoint Human Services is a community mental health center for a three-county area surrounding Winston-Salem, North Carolina. All of its substance abuse programs are outpatient programs. Three of these were involved with the RiR project: Outpatient Services, Step One, and Women and Infant Services for Health (a perinatal program). David Abernethy, Director of Substance Abuse Services at CenterPoint, took the responsibility as lead clinician for the RiR project.

The target intervention at CenterPoint was the adoption of ME. Dr. Allen Zweben, University of Wisconsin, Milwaukee, was the visiting researcher. One of Dr. Zweben's colleagues, David Barrett, elected to accompany Dr. Zweben and assisted him at all of the visits made to CenterPoint. Two positive observations can be noted regarding David Barrett's participation. First, it shows some enthusiasm among researchers for getting involved in the project. Second, it indicates that more junior investigators can be effective as visiting researchers.

A familiarization visit was made on April 11, 2001. Two visits were held to deliver the intervention (July 25–26 and August 29–30, 2001).[12] The first described the overall spirit and underlying principles of ME. It concentrated mostly on motivational interviewing techniques, though material on assessment and giving motivational feedback was also covered. Presentations alternated with role-playing and practice exercises. The CenterPoint director established an expectation that staff should try out the technique, giving motivational feedback to at least one client before the booster visit was held. At this booster visit, the case examples were reviewed, more detailed information on motivational feedback was given, and material on adherence and client retention was presented.

The visiting scientist requested an even more ambitious schedule of five visits, which were to last through December 2001. He felt that this larger series of visits could more adequately

[12] See Table 2 for a schedule of visits.

present the fundamentals of the ME approach. However, NIAAA staff balked at this request out of concern that the expanded schedule would interfere with the timely completion of the project, which was originally scheduled for completion (including the production of a final report) by November 15, 2001.[13] Winston-Salem staff reported that the greatest weakness of the program was that more researcher visits would have been helpful. This was reported by staff at all levels and throughout the organization.

Overall, CenterPoint achieved several positive results with ME, but also experienced some problems in implementation. Many staff reported that the approach was useful in improving the therapeutic alliance and in shifting counselor-client dialog away from unproductive confrontations. They reported that one of the classic ME strategies, giving feedback on how the client's drinking compared to national norms, was noticeably effective with some clients. Although ME should help all clients, staff perceived that it was most useful with treatment-resistant clients. Staff also commented that the approach lessened the pressure to admit clients immediately. This reduced the stress of dealing with clients who were not ready for change.

Factors that helped practice improvement were various and echoed comments made at other sites. The visiting researchers were rated as good communicators. Management sent a strong and consistent message that practice improvement was an important goal. Furthermore, it provided support for the staff to make change and resolved institutional barriers. They also did a good job of preparing the staff to make the most of the researchers' visits. Finally, staff were rated as innovative and skilled.

However, several problems were reported as well. Time for administering assessment instruments recommended by the researchers proved difficult to find in an already crowded intake schedule. For this reason, the client feedback features of ME were easier to adopt than the assessment of client readiness features. Staff turnover was problematic for the women's program, which lost all but one of the staff members trained by the researchers prior to the site visit.[14]

There was also some conflict between the procedures of CenterPoint and those of other agencies with which CenterPoint works. While the former was adopting ME, the latter continued to use a more confrontational approach. For example, staff in the women's program reported instances where they had had some success in nudging clients toward treatment readiness, but that a more confrontational approach pursued by some of the other agencies who interact with these same clients caused the women to "clam up" and eroded some of the progress.

CenterPoint also found itself wrestling with an impediment around "billable hours." CenterPoint counselors are individually responsible for achieving a record of productivity, which is generally set at 77 client contact hours per month. State standards on what can be counted as a client contact hour allow for a maximum of two sessions per client that can be spent in pretreatment assessment. If a counselor spends more pretreatment time with a client, he or she cannot count the extra time toward his or her productivity quota. However, counselors using the ME approach can and do find themselves having three or more sessions

[13] In other words, the report would have to be written before the full series of visits at the site had been conducted.
[14] This is consistent with our experience with staff turnover in New York. However, turnover was generally much less of a problem at the North Carolina sites than it had been at the New York ones.

with a client before that client is ready to enter the "action" stage and commit to active therapy sessions. By faithfully following the ME approach, counselors can put their productivity rating in jeopardy. Management is aware of this dilemma and is trying to be as supportive as possible while still acting within a framework of state standards that it cannot change. The issue illustrates how tangled the web of institutional procedures governing treatment delivery can be. Future projects on practice improvement are encouraged to keep one eye open for potential structural constraints, even if the main focus is on such seemingly nonstructural items as counselor training and information dissemination.

Finally, the Winston-Salem site visit yielded an important observation about how the RiR program achieves its results.[15] Staff had been exposed to a number of training experiences in the past. They were asked why this program had more impact than those other experiences. The reply was that the "on-site" format of this program created a dynamic more favorable to practice change than off-site training typically affords.

In an off-site training, staff sometimes become excited about some new technique and return to the clinic intending to try it. Unfortunately, this impulse often loses momentum because other co-workers did not receive the same training and there is no general goal of clinic-wide change. On the other hand, when the practice improvement message is delivered on-site, all of the staff are exposed to the same message, and it becomes possible to focus them on the same improvement at the same time. This clinic-wide focus of energies enables the parties to reinforce each other's efforts toward change. The RiR program succeeds because it prompts group change rather than individual change.

CONCLUSIONS

This final section contains the overall conclusions from our experience in North Carolina. Items were selected as main conclusions either because they expressed basic judgments about the merits of the RiR program, offered insights on how the program achieved its effects, or reflected observations that were made across more than one site.

1. ***A program of brief technical consultation can stimulate practice improvement in alcoholism treatment clinics.*** Providers were able to use the relatively small amount of technical assistance provided by the RiR program to adopt such improved practices as the use of naltrexone and the use of ME techniques. We note further that there was great enthusiasm, even hunger, for improving treatment practice among both providers and the state treatment agency. NIAAA and CSAT should continue to offer programs to help providers toward this goal of practice improvement.

2. ***The on-site format of the program contributed to its success.*** Inviting a nationally prominent researcher to visit a clinic attracted attention and created enthusiasm. It created an opportunity for the clinic director to focus all of the staff on a common practice improvement goal. This created a better opportunity to change practice than an off-site training would have.

[15] Although similar views emerged in discussions at other sites, they are recorded here because they were expressed with particular clarity at this visit.

3. ***Careful selection of the visiting researchers and the hosting clinic directors contributed to the program's success.*** Strong communication skills, especially an ability to recount one's own direct experience with the target technique, were repeatedly reported to be factors that contributed to success. Similarly, energetic, skilled clinical managers established practice change as an agency goal, communicated their own enthusiasm, prepared staff to make the most of the researchers' visits, provided a supportive environment for staff, and resolved problems, without which practice improvements would have been less likely. It remains to be seen whether a program like RiR could be successful if it involved more average researchers and providers.

4. ***A greater amount of technical assistance was needed to stimulate the adoption of motivational enhancement techniques than to stimulate the adoption of naltrexone pharmacotherapy.*** We should not be surprised that different practice improvements might require different amounts, or "doses," of expert consultation. At the two naltrexone sites, the three-visit format that most provider-researcher pairs gravitated toward seemed about right. The familiarization visits were consistently rated as valuable for planning the intervention and the booster visits helped keep staff efforts on track. However, the ME sites reported a need for additional visits or for continued consultative support after the program had ended. NIAAA and CSAT should consider increasing the number of visits for more difficult-to-adopt practice improvements, even though this may mean offering unequal numbers of visits to different sites.

5. ***The program did a good job of initiating change in treatment practice, but additional assistance would be helpful for maintaining that change.*** For future rounds of the RiR program in other states, NIAAA, CSAT, and the state partner might think about coupling the RiR program with a state-funded, technical assistance program that might be able to supply longer-term reinforcement, troubleshooting, and consultation by less senior experts.

6. ***As a site for introducing a treatment improvement, an inpatient site has several advantages, but it also raises the problem of whether the target improvement can be maintained as clients move to outpatient status.*** Although both Walter B. Jones ATC and Wake ATC were successful at placing their inpatients on naltrexone, both experiences were perceived as incomplete successes because it was not possible to guarantee that patients would continue to take the medication after they moved into outpatient status.[16] Perhaps the more general point is that successful practice improvement at any one clinical unit can create conflict when surrounding but related clinics remain unchanged.[17]

[16] This perception was more strongly expressed at Walter B. Jones, but Wake ATC's efforts to improve outpatient retention by offering incentives showed that it shared the concern as well.

[17] The inconsistency between CenterPoint's ME approach and the more confrontational approach used by the Department of Social Services further illustrates the point.

7. ***Flexibility in the design and schedule of researcher visits helped the program succeed.*** Leaving the provider-researcher pairs free to design the contents of the intervention visits and the schedule of those visits created a program tailored to the specific needs of each site and thereby improved the chance of success. However, it is strongly recommended that future rounds of the RiR program include the opportunity for booster visits, which proved very valuable in all four of the North Carolina sites.

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APPENDIX

TREATMENT PLAN: INTERNAL MEDICINE

4/30/01 ADMIT 5/21 DISCHARGE **Doe, John 9999999**

Addressograph

- **Adjunctive therapy of alcoholism: Naltrexone**
  Evidence: One fifth per day x 25 y. Started drinking as a teen. Last use of alcohol: 4/10. LFTs: GOT 92, SGPT 87, GGT 158. Normal hepatitis serology.
  Objectives: Patient will: Understand the role of naltrexone in alcoholism treatment, its benefits and risks.
  Take medication as instructed and report improvement or side effects.
  Interventions: Physician or physician's assistant:
  - Discussion with patient:
    Benefits: Combined with counseling therapies, naltrexone can reduce the percentage of days spent in relapse drinking, reduce the amount consumed on a drinking occasion, reduce the risk of relapse to excessive and destructive drinking, and reduce alcohol craving. A short (3–6 mo) regimen of naltrexone can provide a critical period of sobriety, during which the patient learns to stay sober without it. It may be used again later in high risk situations (e.g., holidays).
  - FH of alcoholism? Are you ever bothered by alcohol craving?
  - *Potential side effects*
    Liver toxicity: unlikely at 50 mg daily. Continued drinking is much more likely to cause liver damage.
    Side effects: One in ten patients experience nausea, vomiting, headache, fatigue, dizziness, nervousness, insomnia, anxiety. These usually resolve with time. Side effects are often due to opiate withdrawal, transiently aggravated by opiate receptor blockade.
    While on naltrexone, alcohol may cause nausea, but no violent Antabuse-like reaction.
  - *Pain Control*: Naltrexone blocks opiate action. Opiate medications, such as codeine and morphine, are much less effective while on naltrexone. Pain should be treated with nonnarcotic analgesics. If postoperative pain is anticipated, stop naltrexone 72 hours preoperatively, then resume 3–5 days after the last narcotic dose. In acute emergency, higher doses of narcotics will override the naltrexone, but this should only be done under inpatient physician supervision due to the risk of respiratory arrest, coma, or circulatory collpase. You will get a wallet card with these details to carry with you.
    After above discussion, is patient interested in naltrexone therapy? y / n If not, why?
  - Plan to pay for medicine (Medicaid covers it)
  - Assess eligibility for naltrexone - all y/n must be answered before Rx started
  - Currently using opioids or in opiate withdrawal? y / n Date last opiate: _____
    (False positive screen may occur with dextromethorphan and tricyclics)
    Admission urine screen (ordered) for opioids positive? y / n
    Pregnancy test (ordered) positive? y / n
    Breast feeding or unreliable birth control? y / n
    Acute hepatitis or liver failure? y / n FU LFTs:
    (Caution w/use if aminotransferases 3x upper normal; particular caution if total bilirubin elevated.)
    Has patient used/abused methadone in last 30 days? y / n
    Anticipated upcoming surgery in next 3 months? y / n
  - Delay treatment until acute alcohol withdrawal resolved (pt's anxiety.)
  - Delay treatment until opiates cleared (7 d for opiates, 14 d for methadone).
  - Tell patient naltrexone will be started as soon as all screening criteria met.
  - Caution List other potentially hepatotoxic meds (e.g., acetaminophen, disulfiram, INH)
  - Order naltrexone: 25 mg PO after breakfast x 2 days, then 50 mg pc q am.
    Given attached informational literature. Given wallet card.
  - At discharge, advise as follows:
    LFTs at one month and three months, more frequently if higher risk of hepatotoxicity.
    Review again *Pain Control* (see above). Always carry your safety ID card with you.
    Order to give copy of medical treatment plan to patient at discharge.

Goal: Reduction and ultimately elimination of alcohol consumption.