Appendix C -- Translating Research Into Practice

Why Isn't Naltrexone More Widely Used?

Naltrexone has demonstrated efficacy as an important adjunct to the treatment of alcohol dependence, and it is available for general practitioners to prescribe. Yet it has not been widely accepted or tried. The media promoted naltrexone (ReVia®) intensively when it was initially approved by the Food and Drug Administration for use in the treatment of alcoholism, and the pharmaceutical company that manufactures and distributes naltrexone used standard, but limited, marketing techniques to publicize the drug. Yet the field has been slow to adopt the use of naltrexone.

There may be several reasons for this. First, because the initial studies were relatively small and ongoing research was pending, some practitioners have adopted a wait-and-see approach. The additional costs associated with naltrexone may also serve to limit its use. Finally, the fact that there is typically a long lag between an invention or a new research finding and its adoption and widespread use by individual practitioners or programs and organizations in the field has been extensively documented (National Institute of Mental Health [NIMH], 1971; Backer, 1991). Even though the Federal Government spends millions of dollars annually to support carefully selected research and service demonstrations as well as medications development, many practical, effective, and innovative new technologies and procedures languish in published articles in scientific journals without further application. The reasons for this apparent gap between research and its application have also been extensively studied with increasing intensity following the implementation of Great Society programs and the War on Poverty during the 1960s and 1970s. In fact, knowledge development and application has become a professional field with its own scholarly journals, bibliographies, and government-supported or nonprofit research institutes and university-based programs. These activities are known under various rubrics as technology transfer, information dissemination, research utilization, diffusion of innovation, policy research, and organizational change efforts (Backer, 1991). Some of the general tenets of this field that seem applicable to the planned use of naltrexone as a new tool for the treatment of alcohol dependence are summarized in the paragraphs that follow.

Investigators have identified a number of reasons why research findings and innovative technologies are not readily adopted in the field. Among the most commonly cited causes are the inadequate strategies used for disseminating new knowledge and the different perspectives of researchers and practitioners.

Not only does publication of research findings take an excessive amount of time, but the journals in which articles appear are seldom read by more than a few interested professionals and not regularly by those practitioners most likely to benefit from the results (NIMH, 1971). Moreover, research findings are not usually packaged in readily understandable language with clearly specified recommendations that practitioners can replicate in their own programs. Scholarly articles often contain extensive details that are of little interest to busy practitioners (Backer, 1991).

Other frequently cited reasons for the failure to apply research findings or adopt innovations include the threats that change poses to an organization and its staff, the lack of readily available resources needed to implement the change, and the uncertainty about whether the innovation will actually work as well in another setting or with a different target population than the one used for the original research (NIMH, 1971; Backer, 1991). Figure C-1 lists four critical challenges to the effective use of research findings identified by one investigator in this area.

Strategies That Encourage Technology Transfer and Research Utilization

Researchers have noted that certain characteristics of both the innovation and the organizations and professionals that are considering its adoption affect the probability that a new, but tested, methodology or procedure will be successfully incorporated into routine practice (NIMH, 1971). Some of these characteristics are summarized in Figure C-2.

Strategies Specific to Naltrexone Pharmacotherapy

Although patients and family members may be stimulated by media publicity about naltrexone to ask questions of
their treatment providers or physicians, they do not have the necessary influence and authority to actually get a prescription if their inquiries are met with indifference or overt rejection. Because incorporation of naltrexone into the alcohol dependence treatment spectrum is not an automatic response—even though the medication’s safety and efficacy have been demonstrated—programs that want to adopt its use may need a planned strategy. The following steps should be considered in applying the research findings on the use of naltrexone. The steps may be conducted in any order or simultaneously:

- **Disseminate information about naltrexone** to all levels of the health care organization, including treatment providers, ancillary staff, and patients who need to become aware of the drug, its demonstrated efficacy in the treatment of alcohol dependence, and its safety. Start by conveying basic information. Information can be presented in printed materials but is more likely to be assimilated if delivered through in-service training, media presentations, or conferences. Make certain that information is translated into language the audience understands and that the content is targeted to the audience’s needs.

- **Identify advocates and build alliances among them** to ensure a climate of acceptance and support for use of the medication. Advocates can also be used as potential consultants or facilitators of the change process. Potential resources include the following:
  - State substance abuse authority
  - American Council on Alcoholism
  - State psychological associations
  - National Alliance for the Mentally Ill (NAMI)
  - Washington Alliance for the Mentally Ill (WAMI)
  - Researchers who have investigated naltrexone
  - State medical society members
  - American Society of Addiction Medicine (ASAM) members
  - National Association of Alcohol and Drug Abuse Counselors
  - Staff and directors of existing treatment programs that show success in using naltrexone
  - Representatives from Employee Assistance Programs (EAPs), criminal justice system offices of probation and parole, or other health care providers who have witnessed positive responses to naltrexone as an adjunct to the treatment of alcohol dependence
  - Consumers and family members who can move prescribers to try the drug

- **Enlist the support of influential administrators and organizational leaders** whose endorsement will be necessary for incorporating naltrexone into the treatment protocol. The probability that this medication will be used appropriately is increased dramatically if leaders express enthusiasm for its adoption or actively assist with its introduction (e.g., by issuing directives, by making funding and other necessary resources available).

- **Determine which perceived needs and problems of the organization and consumers could be alleviated by the introduction of naltrexone.** Motivation to introduce change is enhanced by heightened sensitivity to specific problems such as high rates of relapse or early treatment termination among alcohol-dependent patients in the treatment program or among specific subsets of this population (e.g., patients with dual disorders). Pressure for change can come from patients and families who experience repeated treatment failures with the current protocols or from staff members who are dissatisfied with patients’ progress.

- **Arrange personal contacts between staff members of the organization that is considering naltrexone and persons who have first-hand knowledge of its safety and utility,** which might include the form of consultation provided by outside experts.

- **Acquire direct experience with naltrexone** by setting up a small pilot demonstration or an open-label trial for approximately 20 to 50 appropriately selected patients to see how they respond compared with baseline functioning after 3 to 6 months on naltrexone as an adjunct to standard treatment. This is ultimately the most convincing evidence that the medication is appropriate for the population of patients served by the provider or program. It is also a useful way to discover resistance to the use of naltrexone or other unanticipated administrative problems. If naltrexone is not already on the formulary or covered by patients’ insurance, the pharmaceutical company that distributes naltrexone is often willing to make the...
drug available for a limited period of time for indigent patients who cannot afford to pay for it. Because many physicians are only comfortable prescribing drugs with which they have become familiar and are reluctant to try new ones without backup, a pilot demonstration that includes an experienced medical consultant and necessary laboratory resources may be a useful mechanism for introducing the drug into practice.

- **Recognize and overcome resistance that can undermine innovation.** In the case of naltrexone, resistance is likely to come from several sources: (1) opposition to any type of pharmacotherapeutic support as part of “drug-free” treatment, (2) the incremental costs added to an already overburdened treatment system by the expenses incurred in prescribing naltrexone and providing for laboratory monitoring of liver functioning, (3) difficulties in coordinating medical services with appropriate psychosocial supports in systems that have not relied heavily on physician involvement, (4) threats to the job security of nonmedically trained counselors, and (5) lack of a basic understanding of the brain mechanisms of addiction.

Some staff members and patients in alcohol treatment programs with an Alcoholics Anonymous (AA)-type orientation and philosophy may resist the introduction of any type of pharmacotherapy because they view this as a “crutch” substituted for personal responsibility and the support of peers in self-help groups. Staff members may also believe that immediate discharge is necessary if abstinence is not maintained from the point of treatment entry. However, naltrexone may help prevent relapse among those who slip. Some AA and Narcotics Anonymous (NA) groups and outpatient “drug-free” treatment programs have come to accept concurrent pharmacotherapy for depression or other mental disorders and even methadone-maintained patients. Educating staff and patients in these treatment systems about the biochemical changes in the brain that alcohol and other drug dependence cause may be useful. It should be emphasized that such changes are treatable and often reversible with pharmacotherapeutic agents that help reestablish normality of brain functions and behaviors so that rehabilitation can take place through counseling and other therapeutic services (National Institute on Drug Abuse, 1996).

Naltrexone may be more readily accepted by mental health systems and their patients or opioid treatment programs that already rely on pharmacotherapy as an appropriate treatment adjunct.

Another point of resistance may be the incremental costs added per patient to the treatment of alcohol dependence. In such situations, the arguments of experts will need to be carefully tailored to the realities that programs face. Unfortunately, studies on the cost-effectiveness of naltrexone have not yet been completed. As a result, potential cost offsets can only be suggested.

Some persuasive points may be that naltrexone is becoming an appropriate standard of care for refractory alcohol-dependent patients and that naltrexone is not very costly compared with other drugs prescribed for chronic medical illnesses. The use of naltrexone may lead to cost savings elsewhere in the health care system (e.g., hospital care, detoxification services, domestic violence reduction). For example, if serious relapse is prevented, then there may be reductions in the use of hospital care detoxification services or prevention/reduction of medical illnesses. The largest cost savings may be among high and chronic users of the physical health and mental health systems (e.g., patients with serious medical illnesses that are exacerbated by drinking, patients with dual disorders), although no data have yet been compiled to confirm this effect.

Ethnicity and culture may play important roles in the acceptability of naltrexone by patients as well as by health care system representatives. Language issues are always important, as are different cultural attitudes toward the use of medications and psychosocial therapies. Cultural sensitivity is essential in establishing an appropriate treatment program environment.

Problems may also be posed and resistance encountered because naltrexone requires coordination of medical and psychosocial approaches that are not always well integrated in current substance abuse treatment modalities. These difficulties are best addressed by careful, but flexible, planning. The case studies that are presented in this appendix offer examples of how naltrexone can be effectively incorporated into a community mental health center program and into a State-certified substance abuse treatment program.

**Preparing the System for Using Naltrexone as a Treatment Adjunct**

A carefully developed plan for adopting an innovation to a new setting is essential for its success. All staff members who will be involved in using naltrexone should be included in planning for its introduction so that their needs are considered and they develop some "ownership" of the process, thereby decreasing resistance to the change (Backer, 1991). The following steps should be completed before naltrexone is introduced:

1. **Identify the prescriber before introducing naltrexone.** The system or program should make certain this person is fully educated about the appropriate use of this pharmacotherapy and is convinced that
naltrexone can be an effective adjunct to the treatment of alcohol dependence for well-selected patients.

2. **Educate all members of the system/program about naltrexone** at the level of knowledge necessary for their assigned roles. Some resources are available from the pharmaceutical company for this purpose. DuPont Merck has publications directed to physicians, counselors, and patients.

3. **Educate and/or train** treatment program admissions coordinators about naltrexone and have coordinators identify naltrexone candidates at the time of intake.

4. **Make certain that naltrexone is available** on the Medicaid formulary or through insurance reimbursement and special programs for indigent patients (see Appendix B).

5. **Ensure coordination with appropriate psychosocial components** that are already available as standard care or that are specially developed or enhanced. As part of a comprehensive treatment program, refer to 12-Step programs such as AA, NA, or other groups that are known to accept patients who are using prescribed drugs.

6. **Develop and disseminate a formal protocol** that includes criteria and procedures for screening and admitting patients; conducting the initial and followup physical evaluations; referring patients for additional medical services and psychosocial therapy; discharging, extending, and terminating patients from naltrexone treatment and the addictions program; handling any emergencies that may occur; and evaluating the effectiveness of the program.

**Case Study 1: Starting a Naltrexone Treatment Program in a Community Mental Health Center**

An urban community mental health center (CMHC) in Illinois successfully integrated naltrexone treatment into available services for indigent patients with dual disorders. The CMHC instituted a flexible approach to coordinated care and enlisted the vital support of its medical director. Although an addictions treatment program was associated with the CMHC, its staffing, administration, and protocols were different and separate from the psychological and psychiatric services. Moreover, it was the policy of the addictions treatment component to discharge any patient immediately who relapsed into drinking (or drug using) and to terminate all contact with the CMHC, even if the patient was receiving pharmacotherapy for a mental disorder. This problem was addressed by simultaneously enrolling patients with dual disorders into both the addictions treatment and the medical services components so they could continue to have physician appointments after compulsory discharge from the addictions treatment program.

Because the CMHC administered different services (such as psychotherapy, group therapy, case management) under different programs, coordination of care was administratively complex. A nurse from the CMHC's medical services program was assigned responsibility for coordinating care for all patients who were taking naltrexone regardless of program. In addition to physician visits for prescription of naltrexone, patients continued their participation in whatever psychosocial treatments were appropriate for their particular psychiatric illness. Patients were not required to participate in traditional addictions treatment, primarily because most of the patients were unwilling or inappropriate for such programs. In practice, this individualized psychosocial treatment was more effective than previously fixed programmatic requirements, especially for patients who were unable to achieve abstinence immediately. Patients could also receive naltrexone at no cost through the pharmaceutical company's special program for indigent patients.

The coordinated and individualized approach exposed many staff members in a variety of service components to patients who were taking and responding to naltrexone. The improvements in patients taking naltrexone quickly stimulated the interest of these treatment providers and generated patient referrals. These patients were being followed in psychological support programs but had either refused or failed treatment in the addictions program. Individualized psychosocial care for patients with dual disorders who were taking naltrexone was particularly effective.

The clinical records of 72 patients with dual disorders who were treated with naltrexone were reviewed. Diagnoses included

- Major depression ($n = 37$)
- Schizophrenia ($n = 17$)
- Bipolar illness ($n = 11$)
- Schizoaffective disorder ($n = 7$)
Transsexualism ($n = 4$)

Concurrent psychotropic medications included antidepressants, neuroleptics, lithium, divalproex, benzodiazepines, disulfiram, atypical antipsychotics, and estrogens.

Although common adverse effects (mostly nausea) during the first 2 weeks were noted in 26 percent of the patients who began taking naltrexone, only 11 percent found the effects severe enough to discontinue the medication. The response to naltrexone among these patients with coexisting disorders was impressive, with 59 patients (82 percent) achieving at least a 75-percent reduction in alcohol intake and only 2 patients (2.8 percent) having less than a 25-percent reduction in their alcohol consumption.

This CMHC concluded that the following factors were most helpful in the successful introduction of naltrexone treatment into the organization:

- Administrative support at the top level, in this case by the CMHC's medical director
- Coordination by a single person or service given the time and authority to schedule patients across services for needed psychosocial and medical care
- Flexibility in arranging services so that psychosocial components were individualized for the different and changing needs of the patients
- Allowing patients treated with naltrexone to continue in various psychosocial interventions with assorted agency staff so that patients' actual positive responses to naltrexone and their success in avoiding relapse were more persuasive and convincing than words or in-service training. In fact, formal education about naltrexone was most effective after staff members had already been convinced of the drug's efficacy by contact with successful patients.

Case Study 2: Use of Naltrexone as a Treatment Supplement for Patients In Publicly Funded Treatment Programs

The Washington State agency for alcohol and substance abuse used a small and informal pilot project to demonstrate the effectiveness of naltrexone as a supplemental adjunct in the standard treatment of alcohol dependence. The results of the pilot project, together with the already available research literature, were sufficiently convincing for the State Medical Assistance Administration to add naltrexone to the State's formulary for qualified patients in publicly supported alcohol- and opioid-dependence treatment programs. These patients must be enrolled in State-certified substance abuse treatment programs that have been authorized to use naltrexone. The patients must get the prescription from a physician and must have a current medical identification card that is not restricted to emergency care, family planning services, or other specified limitations.

A protocol and forms were designed so that counselors in the substance abuse treatment programs could recommend naltrexone, obtain consent from patients to add the medication to the treatment plan, and issue naltrexone authorization cards that would allow patients to receive (and pharmacies to be reimbursed for) naltrexone capsules for a 3-month period (12 weeks). The protocol included three prescriptions of a 34-day supply, provided that no more than two unauthorized breaks in treatment would occur. The authorization cards required patient consent for disclosure of confidential information for 90 days to the patient's private physician and a designated pharmacy.

Counselors were also instructed to confer with and regularly record the reactions and treatment progress of patients who agreed to use naltrexone. It was also recommended that issues pertaining to naltrexone use be discussed in individual counseling sessions rather than in groups where any reports of early common adverse effects might deter other patients from considering the use of naltrexone. Counselors were encouraged to incorporate naltrexone into the treatment regimen; to inform themselves about its efficacy; to educate patients about the medication, using materials available from the pharmaceutical company that supplies naltrexone; and most important, to "pass this information on to all physicians [they] may have contact with."

During 1995, the pilot project enrolled a total of 50 patients with alcohol dependence from two outpatient substance abuse treatment programs in Seattle, Washington, with the following results:

- 42 percent ($n = 21$) completed 90 days of treatment while taking naltrexone.
- 10 percent ($n = 5$) relapsed to drinking and stopped taking naltrexone.
- 15 percent ($n = 7$) stopped taking naltrexone due to reported common adverse effects, including nausea; feeling wired, jittery, or restless; hot flashes; weight loss or a decrease in appetite; or headache. Most common adverse effects dissipated after 2 weeks, and physicians at the participating facilities split doses
or decreased them to reduce patient-reported symptoms.

- 15 percent (n = 7) quit taking naltrexone because they felt they did not need it and believed they could stay sober on their own, using learned skills and other supports.
- 50 percent (n = 25) reported no alcohol consumption while taking naltrexone.
- 72 percent (n = 36) reported a decrease in the craving for alcohol while taking naltrexone.
- 72 percent of the patients who did resume drinking (n = 18 of 25) while taking naltrexone consumed less alcohol than they usually did before starting the medication.
- Women appeared to respond more readily to naltrexone than did men, and the women showed better outcomes from use of naltrexone.
- Patients experienced some difficulty in making an initial connection with the prescribing physician.
- Patients required close monitoring for the first 2 weeks that they took naltrexone. The recommended practice during this time was to discuss medication issues in individual counseling sessions, not in group therapy.
- Naltrexone also appeared to have a positive effect on concurrent use of other drugs in addition to alcohol, as evidenced by a decrease in the number of positive urinalysis results for other drugs.

References
1. Backer, T.E.
Boxes

Figure C-1: Critical Challenges to Effective Use of Research Findings

- Lack of awareness—potential users do not know about the innovation.
- Lack of conviction—potential users are not certain that the innovation will work in their setting without unreasonable costs or adverse effects.
- Lack of resources—potential users may not have access to needed funding, materials, or trained personnel for adopting the innovation.
- Lack of preparation for change—which can be threatening to staff and difficult to implement, particularly in large and complex organizations.

Source: Adapted from Backer, 1991.

1. Organizational climate that supports the concept of change, creativity, and innovation through open communication among personnel, with all levels participating in the making of decisions; collegial endorsement of help-seeking and problem-solving; available time for consideration of innovation

2. Organizational size and structure with some emphasis on self-monitoring and assessment to detect troubles, without being too big or too complex for rapid assimilation of change or too bureaucratic, complacent, or conforming to tradition

3. Organizational affluence and capacity that is sufficient to risk innovation and provide the resources for implementing change

4. Leaders in the organization who are attuned to change, politically astute, and respectful of different professional disciplines

5. Professionalism, age, and security of staff members who look forward to innovations; are not threatened by change; and are willing to entertain, discuss, and attempt new procedures or technologies

6. Relationship to the community and the consumer constituency with a demonstrated ability to lead and a capacity for autonomy rather than vulnerability and immediate capitulation to outmoded traditions

Source: Adapted from National Institute of Mental Health, 1971.

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