

The Vincent P. Dole Research and Treatment Institute for Opiate Dependence: An Integrated Biopsychosocial Model for the Treatment of Methadone Maintained Patients

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Summary

This paper will provide an overview of an integrated biopsychosocial treatment model utilized at the Vincent P. Dole Research and Treatment Institute for Opiate Disorders of the Weill Cornell Medical College, Department of Public Health, and the New York Presbyterian Hospital, to provide treatment services to a population of multi-diagnosed opiate addicted patients. The Institute consists of two methadone clinics that employs a multidisciplinary staff and provides treatment services to young adults (Adolescent Development Program) and to older adults (Adult Services Clinic) who are multi-diagnosed with substance abuse and chronic psychiatric and medical illnesses.

Key Words: Methadone Maintenance - Heroin Addiction
Treatment - Integrated Model- Dual Diagnosis

Introduction

Methadone is a synthetic opiate used for the treatment of heroin abuse and pain. Methadone was first synthesized in 1939 as a long acting narcotic in Germany and patented in 1941, but was never widely manufactured or prescribed since German scientists were unable to develop a safe protocol for its use. It was brought to the U.S. Public Health Hospital, in Lexington, Kentucky after World War II as one of the spoils of war. Methadone was found to be an analgesic and effective medication to withdraw

addicts from heroin. Subsequently, it was used for both purposes — withdrawal and pain treatment. In the 1960s, at The Rockefeller University under the direction of Dole and Nyswander, methadone's properties as a maintenance medication were discovered, and a clinical protocol for methadone maintenance was developed ⁽¹⁾.

The benefits and safety of methadone maintenance in the treatment of heroin addiction have been supported over the last 30 years by numerous research studies ^(2, 3, 4, 5, 6, 7). As a result, methadone treatment programs have been established in most of the United States, including Puerto Rico and the Virgin Islands.

However, with the spread of serious infectious diseases among heroin/opiate abusers, the declining funding for social services and the prevalence of mental illness among the addicted population ⁽⁸⁾, the present urban methadone treatment programs are considered to be full-scale medical and human services agencies trying to address all the medical and psychosocial problems presented by the patient population ⁽⁹⁾.

This paper will describe the treatment services provided at the Vincent P. Dole Research and Treatment Institute for Opiate Dependence (The Institute), a methadone program in New York City, which could serve as a guide for the development of patient-centered services to opiate dependent individuals.

The Institute's treatment services are founded on a biopsychosocial conceptual model, which integrates the delivery of treatment services to patients through interdisciplinary collaboration. The biopsychosocial model is based on a system framework which encompasses the interaction of biological, psychological and social factors in the evaluation of the individual for clinical interventions. Furthermore, it incorporates a social learning or behavioral approach to treatment interventions ⁽¹⁰⁾.

Treatment of opiate addiction through methadone maintenance requires of our patients a commitment to abstain from illicit drugs and to work intensively with the staff on issues that will promote a healthy life style. Attention must be paid not only to patients' physiological problems, but also to their psychological personality make-ups as well as their ability to function as productive social beings.

Central to the Institute's mission is the continuous search for excellence of clinical pathways that meet the treatment needs of each of our patients and empower them to assume positive control of their lives. Similarly, the Institute's philosophy is based on a set of individual but interrelated principles and assumptions which constitute the essence of wisdom that guides clinical strategies and interventions. The tenets underlining our treatment philosophy are based on the following:

- Addiction is a disease with physiological, psychological and social ramifications.
- Although a methadone patient is solely responsible for his/her recovery, he/she cannot achieve recovery alone. Self-motivation is the impetus of recovery which requires the strength and support of others.
- Methadone maintenance controls the craving and withdrawal from opiates, but the total recovery is a one-day-at-a-time lifelong process. A methadone patient can change the course and quality of his/her life by changing how

he/she behaves in the world; by learning behaviors that are responsible; and by gaining self-respect and self-worth.

- Recovery is enhanced by the empowerment of the individual – free of illicit drugs, independent, productive, prepared vocationally and educationally for career or employment commensurate with skills and interest level. Empowerment is a process of continuous growth and change throughout the patient's lifetime.

Although addiction to opiates/heroin is a metabolic disease, the methadone patients might exhibit behavior symptomatic of a past or present dysfunctional family system; of repressed or blocked painful, traumatic experiences, and lastly, symptomatic of feelings of isolation, alienation, powerlessness and hopelessness. Hence, treatment relies on the capacity of recovering methadone patients to take their rightful and responsible roles as individuals and caring parents, spouses and members of the community at large. Therefore, we believe that the longer the treatment, the more comprehensive the treatment, the greater the chances will be for rehabilitation.

History

The Vincent P. Dole Research and Treatment Institute for Opiate Disorders (the "Institute") of the Weill Cornell Medical College and the New York Presbyterian Hospital consists of two methadone clinics that provide treatment to a population of about 300 patients. The clinics originated in 1969-72 in the wake of the heroin epidemic of the 1960's. The two clinics serve distinct populations: one is the Adolescent Development Program that specializes in the treatment of adolescents and younger adults and the other is the Adult Services Clinic that treats older adults whose average age is 45.

The Adolescent Development Program (ADP) was established by Drs. Marie Nyswander and Vincent P. Dole in 1969 at the Rockefeller University. In 1971 the program was moved to the Cornell Medical College Department of Public Health and Pediatrics under the leadership of Drs. Robert Millman and Elizabeth Khuri. It is the only nonresidential outpatient day program in the United States that offers methadone maintenance to qualifying adolescents who are opiate addicted as well as young adults. The program specializes in providing comprehensive treatment services to two distinct populations: youth and young adults with psychiatric disorders.

The Adult Services Clinic (ASC) was established in 1972. From its inception the program has been a source of hope and a treatment choice for older, chronic opiate addicted individuals who could not control their addiction through drug-free treatment. The patients are from all walks of life: many are gainfully employed; others are engaged in vocational training or pursuing academic goals; some are homemakers; and, others are suffering from chronic medical and psychiatric debilitating illnesses.

On September 2001, with the assistance of Dr. Herman Joseph from the New York State Office of Alcoholism and Substance Abuse Services, the clinic expanded its services in response to the need for moving on to a higher level of care those patients

who are psychosocially rehabilitated. A physician/pharmacy-based unit was created, under the sponsorship of the New York State Office of Alcoholism and Substance Abuse Services, U. S. Center for Substance Abuse Treatment and the Department of Public Health of the Cornell Medical College. Patients who are fully rehabilitated and meet a specific treatment criterion are transferred to the new unit where they see a physician once a month and pick up their medication at a neighborhood pharmacy without observed ingestion by pharmacy staff.

The Institute participates in the Weill Medical College/New York Presbyterian Hospital's Community Health Fairs which provides opportunities to further educate the community at large about addiction and the Clinics' services. In addition, it sponsors an annual art show featuring paintings, drawings, photography and poetry contributed by staff and patients, to which community residents and merchants are invited.

Academic and Research Mission

As part of the Weill Cornell Medical College academic mission, the Institute provides education on addiction medicine and is a practicum for medical students and fellows, graduate social work interns and nursing students. Furthermore, the Institute has established research collaboration with other departments of the College and Hospital as well as with other institutions, such as the Rockefeller University.

Direct Care Staff

The direct care staff of the Institute's clinics is composed of six psychiatric social workers, two substance abuse counselors, three psychiatrists, two internists, two registered nurses and two licensed practical nurses.

Treatment Services

As previously mentioned, we believe that recovery is enhanced by the empowerment of the individual patient. We define empowerment as a process of continuous growth and change throughout the patient's lifetime. Therefore our treatment services focus on a holistic, individualized approach to habilitation/rehabilitation of the patient.

The treatment interventions are outlined with the patient during the first 30 days following admission after a thorough intake assessment is performed. The intake assessment includes the following: history of substance abuse; medical and psychiatric history; as well as a history of psychosocial development and functioning (employment, legal, domestic violence, education, family and support system, spirituality). In addition, a special needs assessment is done to elicit the treatment needs of our female patients. The intake assessment is used as the basis for the initial treatment plan, after a thorough discussion with and approval by the patient and the interdisciplinary team. The plan is reviewed periodically during the course of the patient's treatment.

During the admission process a physical examination, which includes PPD test, chest X-rays for HIV+ and PPD+ patients, as well as HIV (voluntary) is performed. In addition, the admission screenings include blood testing for HCV, HAV and HBV antibodies and antigen, liver function test (ALT/AST) and sexually transmitted diseases. Laboratory results are reviewed and discussed with patients by the physician. Patients who are negative for HBV and HAV are given immunizations of either HBV or HAV/ HBV combination for a series of 3 doses to be given in 6 months. All patients are also counseled and provided health education, prevention focusing on sexually transmitted diseases and Hepatitis C, and wellness. Furthermore, an EKG is performed on all patients since some patients in methadone treatment programs may have conditions or behaviors, including abuse of cardiotoxic substances, cardiovascular disease, electrolyte imbalances, or are on prescribed medications that may foster cardiac repolarization disturbances that are associated with increased risk for arrhythmia ⁽¹¹⁾.

Most of our patients are either dually or multiply diagnosed. Some of the diagnostic categories are reported in table 1.

The services offered are as follows:

Table 1. Some of the diagnostic categories used for patients treated at The Vincent P. Dole Research and Treatment Institute for Opiate Dependence (N=300).	
Psychiatric Disorders	56%
HIV+	12%
HCV+	64%
Asthma	10%
Diabetes	12%
Cardiovascular problems	27%

Substance Abuse- methadone/buprenorphine

Immediately after admission the patient receives the first dosage of methadone. Dosages are individualized and determined by the patient's history of opiate use and medical status. For example, a Hepatitis C+ patient with a liver condition might necessitate a specific dosage of methadone to be taken two times per day in order to avoid withdrawal symptoms. Initially, the patients are medicated in the clinics' setting on a daily basis six times per week, and take home a dosage for Sundays. As the patient progresses in treatment, take home medications are increased up to a month of take home dosages after three years in treatment.

The clinic also offers buprenorphine to a selected number of patients through the individual licenses of some of the clinics' physicians. Patients on buprenorphine are inducted in the clinic, and a prescription for a week supply of medication is provided. The Institute has arranged with the same pharmacy that dispenses the methadone to the pharmacy-based methadone patients to do the same with the buprenorphine. Similar

to the methadone maintained patient, a prescription for monthly medication can be provided when indicated by the patient's progress in treatment.

Both during the initial phase and during the course of treatment the clinical staff monitors the patient's stabilization, providing individual and group counseling which includes relapse prevention interventions. Important as well, is the patient's participation in outside-based methadone anonymous groups. Furthermore, on going collection of urine specimen and, when indicated, blood analyses are conducted to ensure stabilization and appropriate dosing. In cases in which a patient has to give a supervised urine specimen, the patient is asked to empty their pockets and to leave packages or pocketbooks outside the urine collection room. At no time, is the staff in the room with the patient nor are patients observed through two way mirrors or cameras.

Medical Treatment

The clinics serve as the primary care setting for most of the patients. Internists are available to provide the necessary health care, either through preventive interventions or through follow-up of acute and chronic conditions. In addition, the clinics have a close relationship with the other Hospital's Specialty Clinic for an integrated patient-centered health care. Some of the services provided at the clinics are:

1. Annual physical examinations that, depending upon the age and medical history of the patient, include: urine and blood analysis; PPD or anergy panel and chest X-ray when indicated; EKG if indicated; prostate screening, bone density for male and female patients over the age of 40, mammogram, and colonoscopy, testing for Hepatitis A, B, when indicated;
2. HIV testing and medical follow-up for patients who are positive. Psychoeducational interventions as well as support therapy groups, focusing on treatment adherence and prevention of risky behaviors.
3. Hepatitis C testing and follow-up. Upon determination of reactive HCV virus, the patient is referred to the Hospital's Hepatitis C Clinic. A week prior to appointment, the patient is given a Health Assessment Form (a tool to measure fatigue scale and medical history). Peak and trough methadone level is also obtained to determine how fast the liver metabolizes the methadone which may require an increase in dose. Once the patient is seen at the Hepatitis Clinic and medications are started, ongoing appointments with the clinics' internists and the psychiatrists are scheduled in order to closely monitor adherence. Important as well is the provision of health education focusing on prevention of risky behaviors.
4. Smoking Cessation. This medical service consists of administration of the Pulmonary Function Test, medication assisted treatment through the prescription of nicotine patches as well as provision of individual and/or group counseling using cognitive behavioral techniques.
5. Follow-up of patients with hypertension, diabetes and/or asthma, which includes health education.
6. All along, the medical services provided at the clinic included bone density

testing for female patients. However, in 2003 bone density testing for male patients, age 40+ was initiated. Of the first group of 70 patients tested, 39 were positive for either osteopenia or osteoporosis, which prompted the medical director to initiate treatment for those patients. The prevalence of low bone density in methadone maintained patients was recently discussed in an article in the Addiction Treatment Forum⁽¹²⁾. The article summarizes a study of bone density conducted by researchers at the Boston University School of Medicine with a sample of 92 patients enrolled in a methadone maintenance treatment program. The study showed below normal bone density in 83% of the sample, with 35% showing osteoporosis and 48% showing signs of osteopenia. Although the authors include the male gender as significant predictor of low bone density, they do not indicate the specific number of males and females included in the study nor the age group.

7. Pain management services coordinated with the Hospital's Pain Management Clinic. All patients are assessed for pain during the intake admission and periodically as needed. If the patient has a chronic condition he/she might be referred to the Hospital's Pain Clinic or provided follow up by the clinics' physicians. Pain medication prescribed by the Pain Management Clinic and the medical director of the Institute are documented in the patients' methadone treatment records. We are therefore aware of all aspects of the patients' treatment and medications prescribed, and, when indicated methadone dosages can be adjusted.
8. Gender-specific services for female patients. On-site gynecological services are provided through pap smears analysis once a year, or as needed. This service was instituted due to the fact that female patients were not following up with the annual referrals to the Hospital Gyn Clinic, due to feeling uncomfortable with disclosing their drug addiction history and status as methadone patients. The female patients who are 35+ years are referred for mammographies and bone density testing. Women's group, family planning and parenting classes are also provided.
9. Annual influenza vaccinations and pneumococcal and tetanus vaccines, when indicated.

Psychiatric Services

It has been established that opioid addicted individuals in methadone treatment programs have higher rates of co-morbid psychiatric and substance abuse disorders^(13, 14). Receiving appropriate treatment for their co-morbid disorders has been difficult for these patients, particularly due to the fact that historically, both the mental health and the substance abuse treatment systems have developed well defined disease specific categories for the delivery of treatment services. This perceived bias is for the most part in the direction of treatment of primarily single rather than dual diagnosis symptomatology. In addressing this problem, we have developed an integrated approach to the delivery of treatment services to our psychiatric and substance abuse dually

diagnosed patients.

During the intake phase a thorough mental health status assessment is performed by the social worker to determine whether the patient requires immediate psychiatric intervention. If the patient is not in need of immediate psychiatric care, an appointment is scheduled with one of the clinics' psychiatrists for an evaluation. During the evaluation, the psychiatrist diagnoses the patient and, if needed, provides the patient with the required psychotropic medications and follow-up plan, which includes monitoring of psychotropic medications' interaction with the methadone. The evaluation also includes the assessment of the patient's possible use of other illegal substances as well as "street purchased pills" and the purpose that they serve to the patient's mental health illness ("self-medication"). We need to mention that a very important aspect of the treatment of the mentally-ill patients in our clinics is the ongoing psychotherapy (individual and group) provided by the psychiatric social workers.

In case a patient requires in-patient hospitalization, he/she is admitted to the Hospital's Psychiatric Department with follow-up by the psychiatrists and social workers while they are hospitalized. However, it is worthwhile mentioning that although 56% of our patients have an AXIS I diagnosis (other than opioid addiction) less than 2% have been hospitalized for psychiatric reasons within the last 5 years. In addition, because of appropriate prescribing of psychiatric medication, there has been no evidence of oversedation in the patients caused by the use of illicitly obtained sedatives, which is a problem often seen in methadone treatment programs that do not provide psychiatric services.

Other Psychosocial Services

The provision of concrete services to some of our patients is also a significant aspect of The Institute's treatment milieu. In terms of social rehabilitation, the clinic population can be described as follows: 45% fully employed or full time homemakers, 6% homeless, 8% physical or mentally disabled, 41% unemployed

The Institute has developed collaborative efforts with community agencies to provide services to patients in need of housing, vocational/educational training and social welfare entitlements. In addition, graduate social work students from various universities and colleges provide vocational/educational assessments and preparation for high school equivalency diploma as well as concrete psychosocial services and case management. It needs to be mentioned that outreach to the families of patients is a consistent effort on the part of the staff in order to educate them about methadone treatment and to facilitate reintegration of the patient to the family system.

In summary, being cognizant of the biopsychosocial problems facing opiate/heroin addicts and the struggles and stigma often faced by methadone maintained patients when seeking services elsewhere, we have successfully developed comprehensive treatment services that involve an interdisciplinary approach, collaboration with other community agencies and graduate schools of social work. This approach has enabled the clinics to be a "one-stop shopping" setting that facilitates a seamless delivery of services that ensures a patient-centered treatment environment.

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