

**The Effects of Integrating Comorbid Patients Such as Schizophrenics,  
Heroin Addicts and Patients with Diagnostic Addictions and  
Dependences into a Primary Care Environment:  
Results of a Longitudinal Study**

by

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THE EFFECTS OF INTEGRATING COMORBID PATIENTS SUCH AS  
SCHIZOPHRENICS, HEROIN ADDICTS AND PATIENTS WITH DIAGNOSTIC  
ADDICTIONS AND DEPENDENCES INTO A PRIMARY CARE ENVIRONMENT:  
RESULTS OF A LONGITUDINAL STUDY

By

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## Abstract

*The effects of integrating comorbid patients such as schizophrenics, heroin addicts and individuals with diagnostic addictions and dependences into a primary care environment: results of a longitudinal study.*

By Matthew Hamilton, Jr.

The results of previous investigations have revealed very sparse information concerning the real life effects of treating patients in a traditional primary care facility. These patients were violent, hallucinatory, boisterous, and manipulative. In addition, the majority sought to avoid primary medical care on every occasion. The process by which they were admitted and treated has been observed and reported in detail. Two hundred and fifty-six patients were enrolled over a period of five months in an integrated medical facility design. This facility provided both primary medical care and behavioral healthcare services. All patients were diagnosed as Mentally Ill Chemically Addicted (MICA). These patients consisted of schizophrenics, heroin addicts and patients with a myriad of addictions. Their treatment plans consisted of medical, behavioral and pharmacotherapy services. Receipt of methadone hydrochloride was contingent upon total treatment plan compliance. This integrated facility was the first of its kind in full operation in the state of New Jersey. Medical encounters consisted of comprehensive examinations, laboratory work and other medical tests. The length of time in treatment for patients in an integrated setting was compared to the State of New Jersey's mandatory examination protocols and summarized in the New Jersey Alcohol and Drug Abuse Data System (ADADS) six-month report for the period of January 1, 1998 - July 1, 1998. The ages ranged from 0-55 and the n = 29,857. The ADADS data indicates that 66% of all patients who entered a treatment program other than an integrated system were discharged in as little as 14 days. Conversely, the mean of time for all patients admitted into the study was 56.41 days, and the standard deviation was 34.94 days. The ages of the patients in the integrated setting were the same and the n = 256. Medical services dominated behavioral treatment by a ratio of 2:1. The analyses of these differences clearly suggest that integrated treatment is the best form of comprehensive care for these patients.

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## Dedication

There is nothing more than I would like to do at this time than to thank and dedicate this work to my wife Vanessa and my three children, Kristen, Danielle and Jordan for being so patient, and so supporting to me while I have spent untold periods of time away from them compiling the data and working on this paper. And, for their support, patience, encouragement and uninhibited love...

I would also like to dedicate this work to my parents Matthew and Betty Hamilton for always giving me advice, even when I did not know they were giving it to me at the time. In addition, I would like to thank Betty Sangster, RN for all of her help and never-ending support. It is my sincere hope and desire that all of the patients that I have met and observed during their hardships and pain may someday find peace within themselves. I also would like to pray for them all. And, I sincerely hope that sometime in their lifetime that they truly find comfort.

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### Introduction

It is commonly known that patients who suffer from Schizophrenia, the severely mentally ill and individuals who are dependent on illicit drugs do not receive consistent healthcare (Boyle, Offord, Racine, Szatmari, Fleming, & Links, 1992; Windle, 1990). There is a significant amount of evidence indicating that in the primary care environment physicians are treating comorbid patients on a consistent basis. Upon recognition by a medical physician that a patient has a behavioral health problem, a subsequent referral to a mental health professional should be initiated. However, there does not seem to be a contiguous clinical pathway in place that is widely used throughout the medical community (Cole and Watterson 1976; Condelli and De Leon 1993; D'Aunno and Vaughn 1992; Simpson, Joe, Broome, et al. 1997).

Thus, it would stand to reason that each admitted patient's length of stay in this particular environment would be longer than those patients receiving uncoordinated healthcare in varying subdivisions. The purpose of this study is to test the hypothesis that comorbid patients who are treated for both medical and psychiatric problems within a single healthcare system will experience improved healthcare outcomes. Furthermore, these patients will experience increased rates of primary care services.

If this hypothesis is in fact true, then these patients could be expected to remain compensated, live happier healthy lives, and to stay out of the hospital for longer periods of time.

This research examines the complete process by which a co-morbid patient (1) is initially admitted into an integrated healthcare delivery system, (2) measure the patients' progress by tracking all behavioral healthcare services that are received over a five month period, (3) track the total number of medical services received by each patient, (4) monitor the total amount of time that these patients remain in treatment, and (5) explore whether, or not, it is possible for these patients to remain in drug abuse treatment past the average time of fourteen days as detailed by the New Jersey State Department of Health in a 1998 report.

This study begins with a thorough review of current and past literature. This literature review provides in-depth detail on available research that specifically examines comorbidity within the medical population. In addition, the review examines the data regarding medical compliance within this particular segment of the population. The review covers a multitude of facilities in which these patients have received both medical and behavioral treatment for various types of illnesses. Traditionally, the occurrence of these patients who disregard, or sacrifice medical treatment has been substantially high. Also, prior

to the literature review there is extensive background information provided that delineates precisely the type of patient who would benefit from receiving healthcare in an integrated healthcare environment. This information is designed to provide a point of reference into the neurological and psychiatric characteristics that are prevalent within this patient population, especially those patients suffering from schizophrenia. Also, in an effort to provide greater clarity numerous patient profiles are reviewed. These self-destructing characteristics are further illustrated by complete Diagnostic and Statistical Manual of Mental Health Disorders (DSM) case examples that outline the symptoms of both schizophrenia, and severe mental illness. After which, bio-psychosocial causes of schizophrenia are examined using the background from these cases.

The next progression proceeds to define the complex characteristics of addiction and dependence, as well as, the ardent distinction between the two illnesses. Additionally, the correlation between substance abuse and alcoholism are reviewed and analyzed within the parameters of addiction and dependency. And, to further demonstrate these physiological and psychological states, there are two other DSM case studies entitled "Thunderbird" and "Cough Medicine", both of which are analyzed in the "Discussion of Thunderbird" and the "Discussion of Cough Medicine" by way of case studies. These cases were chosen for their

prolific and demonstrative clarity in regards to identifying the presence of comorbidity, and the varying degrees of treatment that must be rendered by healthcare providers within the configuration of the integrated care system.

The patients in this study were introduced into an integrated environment in which direct access to both medical and behavioral services was provided in one facility. It is also reasonable to assume that these patients are several times more likely to be hospitalized due to neglected mental health needs, inconsistent, or inappropriate medical care, medical professional disappointment and disjointed treatment. Furthermore, many of these patients that were seen during this period of time were females, substance abusers, poverty stricken, homeless, and unemployed (Davis, Carpenter, Malte, Carney, Chambers & Saxon, 2002). As a result, these patients lacked adequate access to primary health care, and often had little, or no preventative medical care before they entered into this program. Patients that utilized the services of this integrated healthcare environment were provided with primary care, substance abuse and mental health services as a bundled package. New patients that were currently receiving only behavioral healthcare services at other providers had their treatment plans redesigned to include regularly scheduled medical services. Additionally, patients who were admitted into the center for medical services were screened

for signs of comorbidity. Those medical patients who were identified as being comorbid were referred for evaluation by a mental health professional. This was done to achieve contiguous and consecutive treatment for each patient.

Likewise, psychiatric patients with medical comorbidity had treatment plans designed to treat both presenting problems conjointly. All new patients that were admitted into the center were assigned a primary care physician who was responsible for both their primary care and behavioral healthcare needs. The primary care physician is in essence the "gatekeeper" in the patients' treatment plan. It is important to note that any patient that did not choose to follow this recommendation was not admitted into the center. It is also important to note that patients who agreed to participate in this combined treatment model had pre-existing medical, behavioral and/or substance abuse conditions that may have inhibited, or interfered with the continuity of their treatment. Characteristically, these patients are chronic substance abusers, sufferers of chronic mental health problems and members of minority groups. Furthermore, this population is at an increased risk for many infectious diseases including AIDS/HIV. Also, the women admitted into this system reported that as a direct result of their drug use, some of their children were being born prematurely, and had to be detoxified soon after delivery for drugs, such as cocaine and heroin.

Thus, it is important to provide pregnant, substance abusing women with optimal and comprehensive obstetrical care.

A substantial number of women treated in obstetrics have unrecognized and untreated psychiatric disorders and substance use. Given the potential impact of antenatal mental disturbances on maternal and infant outcomes, further investigations into the psychiatric evaluation and treatment of pregnant women in the obstetrical sector are required (Kelly, Zatzick & Anders, 2001).

In addition, prenatal drug exposure can include intrauterine growth retardation, low birth weight, central nervous system damage, and congenital physical malformations, among others. Furthermore, the parents of these children who will be treated at this facility for substance abuse and psychiatric problems also suffer from numerous health problems. These problems included hypertension, lack of proper immunizations, diabetes, heart disease, cervical cancer, prostate cancer, kidney disease, sexually transmitted diseases, AIDS/HIV, poor nutrition, drug, alcohol and tobacco addictions, sexual abuse, tuberculosis, congenital syphilis and dementia. In order to form a baseline of previous medical and behavioral health treatment, during the initial admission interview patients were queried as to why they did not actively seek follow-up treatment when requested to do so by their previous physician. A majority of the patients re-

ported that the hospitals and community clinics in which they received infrequent medical care, simply did not follow-up with phone calls, or reminders. For the most part they reported that financial, or other socioeconomic reasons inhibited access to medical care. During this study, all patients participating in treatment were given access to a host of therapeutic medical services designed to address all of the above medical conditions and symptoms. Likewise, drug use can place patients at increased risk for infectious diseases.

Heroin users present with an altered and functionally impaired immune system and have a higher prevalence of infectious diseases than do non-addicted individuals. Individuals exposed to opioid treatment for pain management during surgical procedures or maintained on oral methadone for treatment of drug addiction show either no effect or a suppressed immune system, depending on dosage and, in the case of methadone-maintained patients, duration of drug treatment (Alonzo & Bayer, 2002).

For that reason, upon admission into the medical center, patients were scheduled to receive an assessment, physical examination, serologic and other laboratory screenings, including TB screening, counseling and follow-up medical care as appropriate. Provided that these particular patients are comorbid, and present varying degrees of morbidity, the following information

is designed to provide clarification, and to detail the characteristics which make-up the patient profile of those admitted into the system beginning with those patients diagnosed as having schizophrenia.

Schizophrenia is not commonly classified as one particular disorder but as a class of similar disorders. At this point, it is not known how many types of Schizophrenic disorders that exist, so we refer to all classes by the term Schizophrenia. The term "schizophrenia" was defined as dissonance within a single personality (Bleuler, 1911). The Eskimos described it as people who scream at invisible people, or individuals who engage in "strange" behavior. The name that they gave to this phenomenon was "nuthkavihak". The Diagnostic and Statistical Manual of Mental Health Disorders (1994) describes the disorder as follows:

*Symptoms of Schizophrenia and Severe Mental Illness*

Delusions with false beliefs of persecution, guilt or grandeur or being under outside control. People with schizophrenia may describe plots against them or having special powers or gifts. Sometimes they may withdraw from people or hide to avoid imagined persecution. Hallucinations most commonly involve "hearing" imagined voices. Other less common experiences can include seeing, feeling, tasting or smelling things which seem very real, but which are not ac-

tually there. Thoughts and speech may be so jumbled that the person may think someone is interfering with their mind. After a period of time a patient may experience a loss of drive. A patient's loss of drive occurs when the ability to engage in everyday activities such as washing and cooking is lost. The lack of drive, initiative and motivation is part of the illness and is not laziness or indolence. Blunted Emotions - whereby the ability to express emotions is greatly reduced and is often accompanied by a lack of response or an inappropriate response to external events such as happy or sad occasions. Social Withdrawal - this may be caused by a number of factors including the fear that someone is going to harm them, and the fear of interacting with others, which may be caused by a lack of social skills. Lack of Insight - because some experiences such as delusions and hallucinations are so real, it is common for people with schizophrenia to deny they are ill, and therefore to refuse to accept treatment which is essential for their well being (DSM-IV, 1994).

#### *Biopsychosocial Causes of Schizophrenia*

No single cause has been identified, but a number of different factors are believed to contribute to the onset of schizophrenia in some people. Genetic Factors - a predisposition to schizophrenia can run in families. In the general

population, only one percent of people develop it. If one parent suffers from schizophrenia, the children have a 10% chance of developing the condition and a 90% chance of not developing it. Certain biochemical substances in the brain are believed to be involved in this condition, especially a neurotransmitter called dopamine. One likely cause of this chemical imbalance is the individuals' genetic predisposition to the illness. No evidence has been found to support the suggestion that family relationships cause the illness. However, some people with schizophrenia are sensitive to any family tension that, for them, may be associated with relapses. It is well recognized that stressful incidents often precede the onset of schizophrenia. They often act as precipitating events for vulnerable people. People with schizophrenia often become anxious, irritable and unable to concentrate before any acute symptoms are evident. This can cause relationships to deteriorate, possibly leading to divorce or unemployment. Often these factors are then blamed for hastening the illness when, in fact, the illness has caused the crisis. It is therefore not always clear whether stress is a precipitant or a result of illness. Schizophrenia is also characterized by a variety of symptoms, including loss of contact with reality, bizarre behavior, disorganized thinking and speech, decreased emotional expres-

siveness, and social withdrawal. Usually only some of these symptoms occur in any one person (DSM-IV, 1994).

Unfortunately, schizophrenia is but just one part of the equation. The next level of concern is that of addiction and dependency states, which are thought to be subsequent manifestations of differing fixations. Regrettably, whenever the word addiction or dependence is uttered somehow it is automatically assumed that one is referring to drug, or alcohol addiction. There are many types of addictions and dependencies. However, it is not always clear as to which disorder is applicable to which patient. Are they interchangeable? According to Webster's New Collegiate Dictionary, addiction is defined as: 1: the quality or state of being addicted < ~ to reading> 2: compulsive psychological need for a habit-forming drug (as heroin) - compare HABITUATION. The Webster's definition of dependence: 1: the quality or state of being dependent; esp.: the quality or state of being influenced by or patient to another 2: RELIANCE, TRUST 3: one that is relied on <he was her sole ~ >4 a: drug addiction b: HABITUATION 2B. In 1991, Dennis Coon found that drug dependence falls into two broad categories: 1) when a person compulsively uses a drug to maintain bodily comfort, a physical dependence (or addiction) exists, and 2) when a person develops a psychological dependence, he or she feels that a drug is necessary to

maintain emotional or psychological well-being. Conversely, dependence can occur exclusively without drugs being present.

For instance, the initial needs of an infant are taken care of initially by the immediate family. Thus, whenever the infant cries someone immediately responds to the "need". Thus, the child is dependent on the caregiver for its survival. Subsequently, as the child grows older, it transcends the dependency state to become an active "dependee". A dependee is one who is in a position to be depended upon. It could also be argued that the infant is a dependee without the cognitive, or physical ability to reciprocate intelligently to a given dependee. Thus, suggesting that he can occupy two roles simultaneously. For example, the caregiver can rely on the infant for emotional comfort. He could also be a playmate to another child or elderly adult.

The child that must be reminded that it is time to go to school is dependent upon his parents, but the child who has learned to respond to clocks and other temporal properties of the world around him (not to a "sense of time") is dependent upon things, and he makes fewer demands on his parents (Skinner, 1971).

On the other hand, addiction must be viewed as a process that is progressive. Addiction must be seen as an illness that undergoes continuous development from a definitive, though often

unclear, beginning toward an end point. Although there are many kinds of addictions, no matter what the addiction is, every addict engages in a relationship with an object or event in order to produce a desired mood change (Nakken, 1988). The process of addiction begins internally. Whereby, the process is moving from one point to another, such as progression. A food addict initially responds to food whenever a defined eating time has been established. Yet, as the progression goes on the addict may begin to hoard food, perhaps in their bedroom for easy access. As time passes, the cycle becomes increasingly uncontrollable.

Slowly, addicts start to depend on the addictive process for a sense of nurturing and to define who they are. These patients subsequently become engaged in a daily ritual of seeking out drugs. At this point the addictive process has permeated the life of the individual and rendered them dysfunctional. Addiction is an abnormal psychological state. The pathology surrounding the addiction is often times extremely debilitating. The individual has developed compulsions that disable day-to-day socially acceptable functioning. The Addiction State is encapsulating and in the extreme cases totally paralyzing. How does one become addicted or dependent? Can one suffer from addiction and dependence? Alternatively, are they mutually exclusive?

Perhaps, but through this continual process of conditioning and automatism, the need to satiate the tension or anxiety tends to override endogenous priorities. The individual increasingly extinguishes self-control and conscious volition subsequently succumbing to automation. Consequently, the individual develops a drive state that he cannot satisfy. At this point, all will power over the addiction has dissipated. Addiction is a multifaceted phenomenon and encompasses many social factors. Addiction for many reasons has been a word that has immured the medical field for the last few years. However, it is growing in ignominy among many practitioners. This is because everyone is using it as a catch all word. Addiction in general is psychological. Addiction is more behavioral than physical. It is more of a mental disease. Yet, it is not clear as to whether or not it can be cured. A disease seems, at base, to have three characteristics. First, it is something that is bad to have and which it would be good to have go away. Second, it must be a condition over which the patient has no control, even though some diseases, such as gonorrhoea or syphilis, may have originally have been brought on by the patient's own "misbehavior". Another important aspect of addiction is that there is a conditioning element present. Operant conditioning is one of the major underlying modules in the addictive behavior. However, more research is required to substantiate these observations.

Furthermore, among the most powerful schedules in this regard is what is called intermittent reinforcement. Whereby the behavior is rewarded only some of the time—without the patient being able to “know” in advance whether a reward will follow his or her actions. One reason for this may be that the individual suffering from an addiction has developed an operant level. Skinner hypothesized that whenever reinforcement was removed from an operant the result is extinction of the behavior. Conversely, the operant is left with an operant level. This infers that whenever a reinforcer is reintroduced, that original response returns to its previous level.

Moreover, Skinner (1953) suggested that one who readily engages in a given activity is not showing an interest; he is showing the effect of reinforcement. As discussed earlier there is an autonomic component in addiction. This would suggest that when a particular cue that has become part of an addiction schema, such as hearing a refrigerator door close, this particular stimulus would elicit a food-seeking behavior. Hence, classical conditioning, which promotes expectancies, is a major mechanism within the patients' addiction progression. It cannot be determined precisely whether, or not any given individual will develop an addiction. There are no guaranteed biological indicators. The only way to determine whether a person has an addiction is by determining all the factors surrounding his or

her behavior and medical condition. What's more, an individual can become addicted under many conditions. Such circumstances can include stress, environment and character. There exists many theories of how and why people become addicted, unfortunately most are extremely complex. One particular theory suggests that addiction has a strong unconscious component as would be suggested by Sigmund Freud. Freud suggested that the Pleasure Principle works to ensure that the individual strives to achieve and maintain pleasure and avoid the opposite. The German word for the opposite of pleasure is "unlust", which is translated as pain. However, because pain has been linked to both physical and emotional well-being, it was later decided that "unpleasure" was more appropriate. Therefore, the pleasure principle suggests that there is a tendency to achieve pleasure and avoidance of displeasure, a tendency, which in earliest life brooks no delay. According to the primary process, cathexis of drive energy must be discharged as soon as possible, and one might further assume that this process is dominant in mental functioning at the start of life (Brenner, 1955).

As an individual grows older he is expected to postpone pleasure, which includes, the discharge of the cathexis. The later being a discharge of drive energy. The major assumption is that as long as the undischarged mobile cathexis remained, there would inevitably be feelings of unpleasure. Perhaps, the end re-