Effect of Statute Changes on Admission Trends at a New Jersey State Psychiatric Hospital

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THE EFFECT OF STATUTE CHANGES ON ADMISSION TRENDS
AT A NEW JERSEY STATE PSYCHIATRIC HOSPITAL

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By Monica Malone
Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Psychology

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This is to certify that the thesis presented to us by Monica Malone on the 4th day of December, 2007, in partial fulfillment of the requirements for the degree of Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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Abstract

The impact of changes in New Jersey civil commitment laws on admission patterns at a New Jersey state psychiatric hospital was studied using an interrupted time series design. The target years were 1965, 1988, 1994, and 1998, years when significant changes in the commitment law took effect. The data studied were the total number of admissions per month. There were no significant changes in admission trends at any of the target dates. Possible reasons for these findings are discussed.
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Introduction
No person shall ... be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation. (United States Constitution, Amendment V)

This study concerns the deprivation of liberty by psychiatric hospitalization. Throughout history, people with psychological disorders have been segregated from the general population. The primary justifications for this have been the police power of the government to protect the rest of the population and the parens patrie responsibility of the government to care for those unable to care for themselves (Brakel, 1985).

In ancient times, psychological disorders were believed to be caused by possession by the devil or evil spirits. The ancient Egyptians and the early Greeks and Romans banished the afflicted person from the cities, if attempts at cures or driving out the demons were not successful. There are indications that the Greeks and Romans may have also murdered some of their citizens who had psychological disorders (Deutsch, 1949). In the time of Plato (428 to 348 B.C.), the possibilities for the insane were confinement at home or sentencing by a judge to a house of correction,
exile, or death. Emperor Leo (457-474 A.D.) of Rome implemented a complex set of laws regarding insanity and marriage. If a spouse became insane, a husband could dissolve the marriage after three years if the spouse did not recover, and a wife after five years. However, the circumstances had to be investigated and, if a husband had caused his wife’s insanity, the husband was confined to a monastery for the rest of his life (Pickett, 1952). Slightly later, Emperor Justinian (483 to 565 A.D.) of Rome admitted the insane to institutions for the poor and infirm (Mora, 1985).

Some of the ancient therapies for insanity sound quite progressive. The Greek physician Asclepiades of Prusa, born in 124 B.C., prescribed sunlight, diet, massage, bathing, and exercise. Soranus of Ephesus, in the second century A.D., also considered light to be important and treated patients in a setting with good sanitation and comfortable conditions. He discouraged restraint. Patients were encouraged to read and to discuss and participate in plays: tragedies for manic patients and comedies for depressed patients (Deutsch, 1949).

Colp (2000) credits the Arabs with having psychiatric divisions in their hospitals as early as 750 in Baghdad and 873 in Cairo, in addition to building a special insane
asylum in Damascus in 800. In the 10th to 12th centuries, Arabs treated the insane with special diets, baths, perfumes, music, and group activities, along with drugs, such as reserpine and hashish (Mora, 1980, 1985). It is noteworthy that the psychiatric asylum in Baghdad in the 12th century had monthly reviews of the patients to determine if they were ready for discharge (Deutsch, 1949). The Arabs believed that some of the insane were possessed by evil spirits, but that others had special powers and could perform miracles (Baasher, 1975).

In medieval Europe, disturbed people were being housed in monasteries. In the late 14th century, Bethlehem Hospital in London admitted people then referred to as lunatics. However, they were kept chained. The first European hospital exclusively for the insane was opened in Valencia, Spain in 1408. It was operated by a religious organization, with the goal of assisting people in overcoming their possession by evil spirits (Deutsch, 1949).

In France, the monarchy issued an edict in 1656 establishing institutions, among them asylums for the insane, and giving the directors the authority to detain people indefinitely (Colp, 2000). People were committed by an order of the police, signed by the king, a lettre de cachet (Mora, 1972).
The Act of 1747 in England legislated the process of psychiatric commitment. A warrant could be issued by two justices of the peace allowing a person “to be then chained” (Jones, 1955, p. 29) for as long as the lunacy continued. The costs were covered by the seizure of the person’s land and possessions. Most of the people confined under this law were housed in private facilities, which did not keep records. The facilities were not regulated and not subject to inspection. The patients had to contract for their own medical care, which most could not do. One facility, Hoxton, had 486 patients, and only 20 received medical care. It was an innovation that this law provided for the court to order that a person’s relatives and physician be allowed to see him or her to determine if insanity was actually present. In 1774, An Act for Regulating Private Madhouses attempted to correct some of the more outrageous abuses in these facilities. It required them to keep records of admissions and provided for inspections, although there were no penalties for poor treatment of patients. However, this act did not cover the “pauper insane” and excluded places where only one person was confined (Jones, 1955).

At the end of the eighteenth century, movements began in several different countries to treat people with mental illness in a more humane manner. In 1788, Vincenzo Chiarugi
was appointed superintendent of Ospidale di Bonifazio, a new hospital for the mentally ill in Florence. He argued against physical restraint and harsh treatment and advocated for respect and providing comforts (Hergenhahn, 1992). At about the same time, in France, the Superintendent of the Bicetre Asylum, Jean Baptiste Pussin, was implementing more humane treatment, including improved food and more comfortable conditions. His wife, Marguerite Pussin, is credited with similar improvements at the Salpetre, where she was the supervisor. When Philippe Pinel was appointed director of the Bicetre Asylum in 1793, he expanded the philosophy of the Pussins into his principles of “moral treatment” (Colp, 2000; Whitaker, 2002). He stopped bloodletting, exorcism, and the whirling chair as treatments and encouraged occupational therapy, bathing, and mild purgatives (Hergenhahn, 1992). An important contribution was the value he placed on dignity and developing a therapeutic relationship. Two years after the departure of Pinel from the Bicetre Asylum, Pussin took the radical step of replacing chains with straitjackets. Pinel followed his example at the Salpetre (Weiner, 1994).

In England, the Tuke family was working in multiple areas to improve conditions for the mentally ill. They worked for legislative reforms to benefit the mentally ill.
Also, by making large contributions, William Tuke and his son Samuel had themselves appointed as governors at the York Asylum, with the intention of reforming it. Meanwhile, they convinced the Quakers to build the York Retreat in 1792 and took an active role in operating it (Jones, 1955). The Quakers believed that patients had a God-given capacity for recovery and it was the Quakers’ role to provide a conducive setting for that recovery (Whitaker, 2002). At the York Retreat, they discouraged restraint and provided animal therapy, activities, tea parties, religion, and plentiful food (Jones, 1955).

In England, the Act of 1808 provided for the construction of county asylums, where an attempt was made to train staff and treat patients humanely, including providing them with activities. These were to be an alternative to the private “madhouses” and the workhouses. However, while there were no regulations about treatment, there were penalties for the staff if there was an escape, and this encouraged the use of restraints. There was a provision for discharge upon recovery. The Act of 1819 provided a specific form for commitment certificates. However, the form could be completed based on hearsay, without the applicant ever seeing the patient. Also, paupers could be committed without a certificate. These pauper lunatics eventually attracted
attention and the Select Committee of 1827 was formed to investigate their conditions. At one facility, the White House, they found people chained in crates naked and on crowded benches chained to the wall. The Acts of 1828 required record keeping and inspections. The certification also had to be by two medical practitioners who actually saw the patient. For paupers, it could be justices rather than physicians. The Lunatics Act of 1845 expanded the inspections to all facilities, at any hour, and allowed the inspectors to release patients. Meanwhile, there was pressure to reduce the use of restraints in the county hospitals, and there were none used at Lincoln in 1838 and none at Stafford in 1842 (Jones, 1955). John Connolly is credited with starting the movement to abolish both mechanical and chemical (bromide, chloral hydrate) restraints and having this philosophy accepted as policy at the first meeting of the Association of Medical Officers of Hospitals for the Insane in 1841 (Colp, 2000).

In France, the Law of 1838 established asylums for needy mental patients (Weiner, 1994) and shifted the responsibility for commitment from the police to physicians. The physician completed commitment forms, which were reviewed by the court. Mora (1972) credits this law with being the model for commitment laws in all the Western
countries. This law was largely the work of Jean Etienne Dominique Esquirol, a student of Pinel (Weiner, 1994).

Deutsch (1949) claims that treatment of the mentally ill in America was less advanced than in Europe because there were fewer physicians in America. From 1676 to 1689, there are court records ordering the construction of small houses, in one case five feet by seven feet, for the confinement of “lunatics.” These were frequently on the property of relatives, who were responsible for the care of the person. Other people with mental illness were locked or chained in attics, cellars, or outhouses. Mentally ill paupers were boarded in private residences at public expense and had the risk of being forced into servitude. People with mental illness were frequently auctioned off, along with the other paupers, to the lowest bidder (Deutsch, 1949).

The expense of these provisions for the mentally ill was a burden on towns. Establishing the residency of someone became an important issue for determining which town had the responsibility. Massachusetts enacted a statute in 1676 requiring towns to take care of their mentally ill citizens so that they did not “damnify others” (Deutsch, 1949, p. 43). Other laws made it mandatory for relatives to care for the mentally ill. As prisons, workhouses, and almshouses were built, they became the repositories for the mentally ill.
ill. In 1736, the Poorhouse, Workhouse and House of Correction of New York City was built. The mildly insane were put to work and the more disturbed were housed in dungeons (Deutsch, 1949).

In 1752, the first general hospital in the country for the sick and insane was established, Pennsylvania Hospital. Initially, the mentally ill were housed in the basement of a private home, which was so damp that many died. In 1756, the new hospital was completed, but the mentally ill were still kept in the basement in chains. Straitjackets and whips were used to maintain order. When Benjamin Rush joined the staff in 1783, he advocated for more humane practices and better living conditions. By 1800, he had finally eliminated the practice of charging the public to look at the patients. However, his methods of treatment may not have been humane. He was a great proponent of bloodletting and whirling (Deutsch, 1949), practices discontinued at the Bicetre Asylum by Pinel as inhumane (Hergenhahn, 1992). He also advocated the use of fear and deception for therapeutic purposes (Deutsch, 1949; Rush, 1974). Thomas Szasz (1970) points out that the patients of Dr. Rush had no rights to decline such treatments. Rush stated, "The more they resist our efforts, the more they have need of our services" (Szasz, 1977, p. 113).
By 1825, many people with mental illness were still being housed in jails. Shocked by this during his visits to the jails of Massachusetts, Reverend Louis Dwight organized the Boston Prison Discipline Society to advocate for improved conditions in the jails and for the transfer of the mentally ill to hospitals. His efforts were responsible for the State Lunatic Asylum at Worcester in 1833. During the first year, half the admissions were transfers from almshouses and the prison system (Torrey, 1997).

Dorothea Dix was a New England teacher who exhausted herself with a grueling schedule and suffered bouts of illness, which appeared to be lung problems. In 1836, to recuperate, she went to England and stayed with William Rathbone (Viney, 1996), a grandson of William Tuke (Whitaker, 2002), and his wife. It is likely that she became very familiar with the Quaker philosophy of the York Retreat. Following her return to the United States, she volunteered to teach Sunday school at the East Cambridge Jail in 1841. She was horrified to discover that the criminals, the homeless, and the mentally ill were housed together in unheated, unsanitary facilities. They were caged or chained, frequently naked, and subject to physical abuse. Many had lost limbs to frostbite. She resolved to determine whether these conditions were universal and spent 18 months
touring the facilities in Massachusetts that housed the mentally ill. She carefully documented her findings and had Dr. Samuel Gridley Howe, founder of the Perkins Institute for the Blind, present them to the legislature. This eventually resulted in funding for the expansion of the hospital at Worcester. It became her campaign to go from state to state, carefully documenting the status of the mentally ill, and then lobbying the state legislature for funding to build hospitals for the mentally ill (Viney, 1996). In 20 states, she was successful in precipitating the construction or expansion of psychiatric hospitals, including the New Jersey State Hospital at Trenton (now Trenton Psychiatric Hospital), which she referred to as her “first-born child” (Deutsch, 1949, p. 185). Between 1825 and 1865, the number of psychiatric hospitals in the United States increased from 9 to 65 (Breakey, 1996). She then expanded her efforts to Europe. Unfortunately, she returned to the United States to discover that many of the abuses she had sought to eliminate were perpetuated in the new hospitals. In 1881, when she was almost 80, Dorothea Dix retired to Trenton Hospital, where she spent the remainder of her life (Deutsch, 1949).

Psychiatric hospitals dominated the treatment of the mentally ill in America until World War II. At that time,
the forces which would fuel the deinstitutionalization movement started. It was essentially the merging of four elements which propelled the deinstitutionalization movement: criticism of hospital conditions, increased feasibility to move people out of the hospitals, challenges to the commitment laws, and a shift in government funding.

The conscientious objectors who worked in the psychiatric hospitals during World War II were instrumental in publicizing the poor conditions (Torrey, 1997). Following the war, several writers wrote exposés of psychiatric hospitals, including Albert Deutsch, Albert Q. Maisel, and Mike Gorman. In addition, Mary Jane Woods’ novel, *The Snake Pit*, was a best-seller and was made into a movie (Grob, 1991). Public opinion started to turn against psychiatric hospitals.

As this was happening, psychotropic medications were being developed which, for the first time, made it feasible for many long-term psychiatric patients to live outside the hospital (Lamb, 1998; Salvendy, 1985). Later, in the 1960s and 1970s, the Social Security Act was revised to include psychiatric disorders. Psychiatric patients now had a source of income with which to pay for housing (Breakey, 1996).

In the 1930s, the federal government contributed $10 million to the construction of psychiatric hospitals through
public works funding (Ridenour, 1961). With the passage of the National Mental Health Act in 1946, the federal government became involved in directing the type of psychiatric treatment which would be provided, by funding outpatient, but not inpatient, treatment (Janofsky, 1996). Then, based on the recommendations of the Joint Commission on Mental Health of the U.S. Congress (1961), the Mental Health Services Acts of 1963 and 1965 were designed to transfer the delivery of services from the hospital to the community.

The final element in the pressure for deinstitutionalization was the series of court cases challenging the commitment laws. In 1966, the Supreme Court ruled in *Gideon v. Wainwright* that criminal defendants facing deprivation of liberty have a constitutional right to a free lawyer. This concept was expanded to include people facing civil commitment. The new field of public interest law was developing. People with mental illness now had access to free legal representation, and energetic lawyers were looking for cases with which to force change (Brooks, 1979). *Wyatt v. Stickney* (1972), *Lessard v. Schmidt* (1972), and *Lake v. Cameron* (1966) all defended a person’s right to be in the least restrictive environment. *O’Connor v. Donaldson* (1975) determined that a need for treatment, by
itself, does not justify commitment. The person must also be dangerous. If the person can survive on the outside, with available help, they cannot be detained in a hospital (Ennis, 1978).

The total population of psychiatric hospitals in the United States peaked at 559,000 in 1955 (Lamb, 1998). In 1956, for the first time, the populations of public mental hospitals started to decline, rather than grow (Janofsky, 1996). By 1975, the population was down to 191,000 (Growing controversy, 1977). However, as the population of psychiatric hospitals declined, the public’s dissatisfaction with deinstitutionalization grew.

“Deinstitutionalization of seriously mentally ill individuals has been the largest failed social experiment in twentieth-century America,” according to E. Fuller Torrey (1995, p. 1612). Some (Gronfein, 1985; Levy, 2002; Talbot, 1979; Torrey, 1997) claim that deinstitutionalization is really transinstitutionalization, with the patients being housed in jails or nursing homes instead of psychiatric hospitals. The New York Times (Levy, 2002) estimated that 1,000 New Yorkers were being housed in special nursing home units for the mentally ill. Some resided there voluntarily, but many were being held on locked wards against their will, in violation of the law, and with few rehabilitation
services. Torrey (1995) estimated that there were twice as many people with psychiatric disorders in jail as there were in psychiatric hospitals on any given day. The Bureau of Justice Statistics Report indicated that, in 2005, more than half of the people incarcerated in the criminal justice system had a significant mental health problem (James & Glaze, 2006).

Among those discharged from psychiatric hospitals, homelessness is a major problem. Lamb (1998) reports that one third to one half of all long-term homeless adults are people with major psychiatric disorders. If the deinstitutionalized do have housing, it is frequently in a poor, crime-ridden area because the other communities do not want congregate housing near them. This sets up the dischargees to be victims of crime (Plight, 1978). There are also problems with the quality of the housing. In Oahu, Hawaii, from 1970 to 1973, 87 new licensed care and boarding homes were established to house discharged psychiatric patients, but an estimated 66 unlicensed facilities also opened (Kirk & Therrien, 1975).

Acquisition of outpatient mental health services is critical in preventing rehospitalization. However, by 1975, only 10% of the clients of community mental health centers had a diagnosis of schizophrenia, in contrast to psychiatric
hospitals, where it was the primary diagnosis. This seems to indicate that the community mental health centers and the psychiatric hospitals were not treating the same population (Janofsky, 1996; Langsley, 1980). Previously untreated people, who had never been hospitalized, availing themselves of new services, accounted for the increase in outpatient service utilization, not deinstitutionalized hospital patients (Goldman, Adams, & Taube, 1983). Langsley (1980) describes this as a drift away from the medical model of community treatment, to a social service model, accompanied by a 50% drop in the number of psychiatrists employed and a 50% increase in psychologists and social workers (Winslow, 1982).

The discharged hospital patients were not getting enrolled in the community treatment centers. From 1973 to 1976, more than half the admissions to South Florida State Hospital were returnees, because they were not getting their needs met in the community (Growing controversy, 1977). A study by the Mental Health Association of Essex County (1977) in New Jersey concluded that the patients were just not capable of accessing the services on their own. Slovenko (1981, p. 275) and Brakel (1985, p. 31) cite the statistic that 13% of patients discharged from New York state hospitals were dead within two months.
There were geographic exceptions to the service access problem. Yarvis, Edwards, and Langsley (1978) reported that in three Northern California community mental health centers, services to those with a diagnosis of psychosis exceeded services to people with a diagnosis of neurosis, both for number of admissions and for quantity of services. And, the startling death rate statistic may have been a misinterpretation of Minkoff’s statement: “In New York, 13% of elderly admissions die within two months...” (1978, p. 28) that referred to hospitalization, not discharge.

The response to these problems has been programs of more aggressive outreach, such as Program for Assertive Community Treatment (PACT). These programs utilize multidisciplinary teams to provide services at community mental health centers, but also at the patient’s home, worksite, or other location where assistance is needed. Staff provide aggressive follow-up, in contrast to leaving the responsibility for acquiring aftercare with the patient. Studies have indicated that PACT services are more effective that traditional outpatient services in preventing rehospitalization (Meisler & Santos, 1997).

Some states, such as New Jersey, have even initiated forms of outpatient commitment to improve utilization of outpatient services (NJ Laws of 1987, c. 116, 15c). However,
outpatient commitment rekindles the debate over individual liberty rights versus the *parens patriae* authority or responsibility of the state.

This dissertation will explore how one state, New Jersey, has legislated the issue of individual liberty and psychiatric treatment over the years and the actual effect of that legislation on hospital admissions at one state psychiatric hospital.
A History of New Jersey Statutes

1953 law. In 1953, two years before the institution which is the subject of this study opened, the commitment requirements were amended (NJ P.L. 1953, c. 29). Involuntary commitment required the certification of two physicians, as it does today. However, those physicians had to be both licensed to practice medicine in New Jersey and residents of New Jersey. In addition, they were required to have at least five years of experience in the practice of medicine. These requirements were waived if the potential patient was an honorably discharged veteran and the physician was commissioned in the Army, Navy, or Marine Corps or was employed by the Veteran’s Bureau. The physicians’ examination of the patient was required to be within ten days of the admission to the hospital.

The criteria for involuntary commitment had been established by a 1922 court decision. “...One must show not only that the person was insane at the time, but also that to have permitted him to go at large imperiled his safety or safety of public, and that the danger was not only possible but probable” (Boesch v. Kick, 1922). A 1953 court decision clarified that the dangerousness criterion included property. “The test of insanity warranting commitment is
whether insanity is of such a degree or character that if the person so afflicted were allowed to be at large he would, by reason of such mental condition, be in danger to life, person or property, or a menace to the public” (re Heukelekian, 1953).

Voluntary admission requirements were considerably more lenient than those currently in effect. “A person resident of the State believing himself about to become insane or in danger of losing his reason, and being desirous of obtaining treatment for the betterment of his mental condition, may be admitted to any public institution for the care and treatment of the insane...” (NJ P.L. 1953, c.29, 22).

Another interesting element of the 1953 law was the provision that children under two years of age could stay with their committed mothers. “The name and history of such child shall be entered upon the records of the institution in the same manner as if the child had been committed or admitted to such institution as an inmate or patient.” (N.J.S. 30:4-26.2, 1953). This provision was not repealed until 1987 (NJ P.L. 1987, c. 116).

1965 law. The 1965 revisions to the commitment laws reflected an awareness of patients’ rights and of the need to monitor hospital conditions (NJ P.L. 1965, c.59). The State Board of Control was given the responsibility to set
standards and to inspect all facilities, both public and private, at least annually. The reports of these inspections were to be available to the public. However, the criteria for discharge remained difficult. The discharge of involuntarily committed patients required a certificate from the medical director or chief of service stating “that the patient is not suffering from mental illness” (NJ P. L. 1965, c. 59, 29).

The eligibility requirements for committing physicians were eased. The residency and experience requirements were dropped, as was the requirement for a New Jersey medical license. The medical license could be from any state. However, the physician could not be related to the patient or be a proprietor of the institution to which the person was being committed. However, the physician could be the admitting physician of the institution to which the person was being committed. The 1965 law also provided for an assessment by just one physician, rather than two.

The revisions of the commitment procedures in 1965 represent a shift from a medical determination of mental illness and eligibility for commitment to a legal determination. In 1953, the assessments of two physicians were submitted to a judge for review. In 1965, police were “authorized to apprehend any person whose behavior suggests
the existence of a mental illness, who shall on inspection be deemed to be dangerous to the public ...” (NJ P.L. 1965, c. 59, 21) and they were to take such persons to the nearest court. It was desirable for the police to provide the judge with a physician’s report, but, if one was not available, the judge could order the assessment to be done at the institution to which the person was being committed.

The 1965 law also represents a shift in emphasis from dangerousness to the welfare of the potential patient as the primary criterion for commitment. The existence or absence of mental illness was the main criterion for admission and discharge. “‘Mental illness’ shall mean mental disease to such an extent that a person so afflicted requires care and treatment for his own welfare, or the welfare of others, or of the community.” (NJ P.L. 1965, c. 59,7). The behavior of the person was still required to “constitute a peril to life, person or property” (N.J.S. 30:4-26.3,1965). However, this seemed to have less emphasis than the presence of mental illness.

While it appears that more people would meet the criteria for involuntary commitment in 1965, it became more difficult for people to be hospitalized voluntarily. The law (N.J.S. 30:4-46) was changed from “believing himself about to become insane or in danger of losing his reason” (1953)
to “believing himself to be mentally ill” (1965). That person could then be discharged when the medical director determined that “said patient is recovered or that further treatment in the hospital is unnecessary or undesirable” (N.J.S. 30:4-39, 1965). This is significantly different than the requirement that involuntarily committed patients no longer have a mental illness. The 1965 law also introduced the provision that voluntarily committed patients could give notice and leave within 72 hours.

Both the 1953 and the 1965 laws specify that the patient, unless indigent, is responsible for the cost of hospitalization. In 1965, the spouse, parents, grandparents, children, or grandchildren could also be held responsible for the cost or a portion of the cost.

The 1965 family care provision appears to be the first effort at outpatient commitment. This program placed eligible patients in boarding homes or “with suitable private families” (N.J.S. 30:4-23, 1965). However, they remained patients of the institution and could be recalled to the institution at any time by the CEO (N.J.S. 30:4-107, 1965).

It was recognized that patients had certain rights, and these rights were specified in the 1965 law. These included the right to treatment, the right to be free of unnecessary
restraint or isolation, the right to participate in treatment planning, the right to exercise civil and religious rights, the right to communicate by sealed mail, and the right to receive visitors. However, the right to treatment was modified by the phrase “to the extent that facilities, equipment and personnel are available.” So, it was not an absolute right. This became one of the subjects of the Rennie v. Klein (1978) lawsuit, and in 1978 the state entered into a consent decree, agreeing to increase staffing so that treatment could be provided.

Another right which was recognized was confidentiality of records. However, there was a peculiar exception to this. “Nothing in this section shall preclude disclosure ... to any relative or friend or to the patient’s personal physician or attorney if it appears that the information is to be used directly or indirectly for the benefit of the patient” (N.J.S.30:4-24.3, 1965). This clause remains in effect today. In 1995, an additional paragraph was added to allow the exchange of information between agencies. There is no mention of obtaining consent from the patient (NJ P.L. 1995, c.4).

In 1991, the legislature specified that the rights guaranteed to psychiatric patients in 1965 applied to patients in screening centers and short-term care facilities
NJ P.L. 1991, c. 233). This law describes those rights in more detail and lists additional rights. However, it does not specify that this expansion of rights applies to patients in state and county psychiatric hospitals.

1987 law. The 1987 revision (NJ P.L. 1987, c. 116), which took effect in November 1988, restricted the definition of mental illness, set up county screening services, codified ongoing judicial review of hospitalization, and provided for Conditional Release, a form of outpatient commitment. The goal was to divert potential state hospital admissions to less restrictive treatment settings. The review hearings had already been initiated by a memo from Chief Justice Hughes in 1974, and then written into the Court Rules in 1975 (Aviram & Smoyak, 1994).

In 1965, mental illness was broadly defined as “mental disease to such an extent that a person so afflicted requires care and treatment for his own welfare, or the welfare of others, or of the community” (N.J.S. 30:4-23). In 1988, the definition became much more specific.

“Mental illness” means a current, substantial disturbance of thought, mood, perception or orientation which significantly impairs judgment, behavior or capacity to recognize reality, but does not include
simple alcohol intoxication, transitory reaction to drug ingestion, organic brain syndrome or developmental disability unless it results in the severity of impairment described herein (N.J.S. 30:4-27.2, 1988).

In 1994, there was concern that this restrictive definition was being interpreted to require psychosis and that it did not include sexual offenders. It was modified to read “... impairs judgment, capacity to control [italics added] behavior ....” An additional sentence was added at the end. “The term mental illness is not limited to ‘psychosis’ or ‘active psychosis’ but shall include all conditions that result in the severity of impairment described herein” (NJ P.L. 1994, c.134).

The criteria for “dangerous to self” incorporated the exception from the O’Connor decision (O’Connor v. Donaldson, 1975). “... No person shall be deemed to be unable to satisfy his need for nourishment, essential medical care or shelter if he is able to satisfy such needs with the supervision and assistance of others who are willing and available” (N.J.S. 30:4-27.2, 1987).

In 1987, the definition of “dangerous to others or property” was also clarified. Up until this time, the only clarification seemed to be the Boesch v. Kick (1922) decision which required that the danger “was not only
possible but probable.” The 1987 law (NJ P.L. 1987 c. 116) specified that “there is a substantial likelihood that the person will inflict serious bodily harm upon another person or cause serious property damage within the reasonably foreseeable [italics added] future.” There is now doubt that the criterion of dangerous to property, by itself, could withstand a court challenge, based on the decision in Foucha v. Louisiana (Cornwell, 1998). The term reasonably foreseeable was clarified in the commitment appeal of W. Z. to include up to ten years (In re W. Z., 2001).

Commitment statutes for most states are permissive, not mandatory. They permit commitment, but do not require it (Hoge & Appelbaum, 1989). The 1965 New Jersey statute followed this pattern and used the word “may” in referring to the initiation of a commitment. In 1987, the phrasing was changed to “shall,” mandating certain actions by the police and the mental health screeners when a person met the criteria for commitment. A 1991 statute (NJ P.L. 1991, c.270, 1) that addresses the duty to warn and protect potential victims of violence or self-injury expands the mandate to all licensed medical or counseling practitioners. They must discharge their duty to warn and protect by arranging hospitalization or by notifying the police, who shall transport the person to a screening center. These
changes reflect court decisions, including *Turner v. Jordan* (1987), clarifying that the Tarasoff duty is a duty to protect and not just a duty to warn (Rychik & Lowenkopf, 2000). However, New Jersey and Missouri are the only two states that mandate the initiation of commitment by statute (Werth, 2001).

By 1987, some counties, such as Atlantic, were already using screening services to divert potential hospital admissions. The revised law (NJ P.L. 1987 c. 116) provided for the establishment of screening services in each county and specified that they were “the preferred process for entry into short-term care facilities or psychiatric facilities so that appropriate consideration is given to less restrictive treatment alternatives.”

Another tactic to reduce hospital admissions was the Conditional Release provision of the 1987 law (NJ P.L. 1987).

If the court finds that the patient’s history indicates a high risk of rehospitalization because of the patient’s failure to comply with discharge plans, the court may discharge the patient subject to conditions recommended by the facility and mental health agency staff and developed with the participation of the patient. Conditions imposed on the patient shall be
specific and their duration shall not exceed 90 days. (N.J.S. 30:4-27.15, 1987)

The Outpatient Commitment Task Force (Dennis & Deeney, 1999) reported that Ancora Psychiatric Hospital was the only New Jersey hospital that utilized this procedure extensively. Approximately 30% to 40% of the people discharged from Ancora Psychiatric Hospital were under a Conditional Release (Dennis & Deeney, 1999, p. 20). It was relatively infrequent at the other state hospitals. In 2002, in the consolidated cases of In the Matter of the Commitment of B. L. and In the Matter of the Commitment of M. W., the potential authority of Conditional Release was removed. It was decided that “the recommitment must be based upon the standard for the involuntary commitment of patients, that is, ‘the patient is mentally ill and that illness causes the patient to be dangerous to himself, others or property.’” In re W. H., supra, 324 N.J. Super. at 523.” Individuals could not be rehospitalized because they violated the conditions of their release. The criteria for hospitalization had to be the same as for the initial commitment.

Another provision of the 1987 law to facilitate successful discharge was interim financial assistance. Loans could be provided for living expenses until there was a determination of public benefit entitlement (N.J.S. 30:4-
27.19, 1987). Prior to this, for living expenses following discharge, the patient could only draw on funds he or she had turned over to the institution (NJ P.L. 1965 c.59).

A major innovation in the 1987 Law was the introduction of ongoing judicial review of a patient’s continued hospitalization. Review hearings were scheduled at 3 months after admission, 9 months after that hearing, and then annually (N.J.S. 30:4-27.16, 1987). This did not prevent discharge by the person’s treatment team prior to a review hearing (N.J.S. 30:4-27.17, 1987). Prior to 1987, a person committed to a New Jersey psychiatric hospital remained there until the staff of the hospital decided to discharge that person (N.J.R.S. 30:4-107, 1965).

Conditional Extension Pending Placement (CEPP). There was an additional change, effective January 1, 1988, that was implemented through the Court Rules (Pressler, 1989, N.J. Ct. R. 4:74-7g(2)). Patients eligible for discharge could now be detained if they did not have appropriate housing. Their commitment could be conditionally extended until an appropriate placement was located. At their review hearing, the judge would designate them CEPP and a placement review hearing would be scheduled within 60 days. If they still did not have housing, additional hearings would be scheduled at 6-month intervals. Although this first appeared
in the 1988 Court Rules, judges in Essex County started using it, under the term *Discharged Pending Placement* (DPP) in 1975, after the Court Rules provided for periodic reviews of commitments, with counsel provided. It was established as a distinct legal category in the 1983 *In re S.L.* decision, and the requirement for a placement review hearing within 60 days was introduced (Aviram & Smoyak, 1994).

According to a news release by Governor Whitman of New Jersey on April 28, 2000, there were “more than 750 patients” on CEPP status in the state’s psychiatric hospitals on that date. This is reminiscent of the claim by Thomas Szasz (1977) that commitment is the response to a problem of housing, rather than to a problem of illness.

*Mentally ill sexual offenders.* In 1994, the legislature reacted to the July 29, 1994, murder of 7-year-old Megan Kanka by a previously convicted sexual offender (CNN Interactive, 1997). The legislature wanted to ensure that sexual offenders who were not psychotic could be included in the definition of mental illness. This expansion of the definition of mental illness was previously discussed. The new law also declared that 90 days before the end of a person’s sentence for a sexual offense, their records are to be reviewed to determine if they are in need of involuntary commitment. This law also expanded the timeframe of
Conditional Release for commitments “in which the Attorney General or a county prosecutor participated.” In these cases, it could exceed the usual 90 days (NJ P.L. 1994, c. 134). From June 1995 to June 1998, 107 people were committed to New Jersey psychiatric hospitals after completing their prison sentences for repeated sexual offenses (State of New Jersey, Division of Mental Health Services, 2000).

The Sexually Violent Predator Act (NJ P.L. 1998, c. 71), clarifies the definition of such persons, and provides for them to be housed in a facility separate from other psychiatric patients. Temporarily, that facility is the Ann Klein Forensic Center, Northern Unit, located in Kearny, New Jersey.

Alexander Brooks (1995) raises ethical questions about these types of statutes. He questions whether we are justified in confining people based on predictions of dangerousness. Due to inaccuracies in prediction, some people will be confined unnecessarily. The Superior Court of New Jersey has not only upheld commitments under these laws, but has upheld the use of actuarial instruments for the prediction of dangerousness (In re R. S., 2001).
<table>
<thead>
<tr>
<th>Passed (Effective)</th>
<th>Mental Illness Definition</th>
<th>Commitment Criteria</th>
<th>Commitment Process</th>
<th>Discharge Criteria</th>
<th>Other Provisions</th>
</tr>
</thead>
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| 1953 (3/19/53)   | Lunacy                    | Person requires care & treatment because they are insane & a peril to self, public safety, or property | 1. Apprehension by police  
2. Immediate court review  
3. 2 physicians licensed for 5 years | No provision | Voluntary admission by request |
| 1965 (8/26/65)   | Mental disease requiring treatment for own or others’ welfare | Mental illness & behavior dangerous to life, person, or property, or requires care for own or community welfare | 1. 2 physicians for regular commitment  
2. 1 physician for 7 day commitment | Involuntary: Medical Director certifies that patient is not suffering from a mental illness  
Voluntary: 72 hour notice or Medical Director states treatment unnecessary or undesirable | 1. Family Care Program: Placement while still under commitment  
2. Recognition of rights |
| 1987 (11/7/88)   | Impairment in judgment or capacity to recognize reality | 1. Danger must be in the reasonably foreseeable future  
2. Donaldson exception of caring for self with available help | 1. Screening Centers  
2. May hold for 72 hours before commitment  
3. 1 of the physicians must be a psychiatrist | Court review within 20 days. Discharge within 48 hours or next working day. Voluntary: Discharge on 48 hours notice. Discharge plan required | 1. Conditional Release for 3 months  
2. Interim financial assistance at discharge |
| 1994 (10/31/94)  | Not limited to psychosis, includes personality disorders | Sex offenders in prison considered for commitment prior to release | Criminal justice system initiates commitment for sex offenders at end of prison term | Same | None |
| 1998 (8/12/99)   | For SVPA, inability to control danger due to emotional, cognitive, or volitional impairment | For sex offenders: likely to engage in acts of sexual violence if not confined | For sex offenders, criminal justice system initiates commitment to a special facility indefinitely | For sex offenders, annual court reviews or recommendation of treatment team for a court review | For sex offenders, Conditional Release may be for 6 months or longer |
Research on Effects of Legislation

In the 1970s, there were a series of court decisions throughout the United States that ruled existing commitment statutes were unconstitutional. This was interpreted to mean that the need for treatment was not a sufficient justification for commitment. Eventually, every state included the criterion of dangerousness in their commitment laws (Miller, 1992). By the 1980s, the public was reacting to the negative consequences of this deinstitutionalization, as it was becoming clear that the court had opposed the vague and broad nature of the commitment standards, rather than the content of the standards. States started changing laws again to include a need for treatment criterion for commitment (Miller, 1992). There were numerous research studies done on the impact of the legislative changes associated with these two trends.

Most researchers investigating the effects of legislative changes on civil commitment studied either the effect on numbers and types of hospital admissions or the process of commitment. This section will describe some of the major studies.

Studies of Process

The 1972 Lessard v. Schmidt court decision declared that Wisconsin’s commitment statute, which was based on the
need for treatment, was unconstitutional. Zander (1976) compared commitment procedures in two Wisconsin counties. One continued to use the need for treatment as the criterion for commitment and one implemented the standard of dangerousness. Commitment hearings on the need for treatment averaged 10 to 15 minutes in length, and 36% ended in commitment. Hearings in the county using the standard of dangerousness were more adversarial and averaged two to three hours in length. Only 10% ended in commitment.

Another study which concluded that outcomes were more dependent on people and location than on legislative change was done by Miller and Fiddleman (1982). They used a pretest-posttest design to study the effect of changes in the commitment law in North Carolina. After the law became more restrictive in 1973, requiring that the person be mentally ill and imminently dangerous, instead of gravely disabled, the definitions were broadened in 1979. The procedures for outpatient commitment were also refined at that time. The result was an increased use of outpatient commitment and an increase from zero to a 38% rehospitalization rate among people under outpatient commitment.
Studies of Admission Rates

Three studies used a posttest-only design to evaluate admission trends following changes in the commitment laws. Gudeman, Nelson, Kux, and Sine (1979) looked at admissions to Hawaii State Hospital for the 28 months following the 1976 changes that made the commitment law more restrictive. As expected, they found a decrease in total admissions. There was also a decrease in voluntary admissions (but an increase in the proportion of voluntary admissions to involuntary admissions), a gradual increase in emergency admissions, and an increase in admissions under the penal code. The authors concluded that some involuntary admissions were being delayed by the new criteria, and these people were then becoming part of the criminal justice system and being admitted under the penal code.

In 1974, South Carolina adopted dangerousness as the criterion for commitment. Mestrovic (1982) studied the characteristics of all the applicants for admission to state psychiatric hospitals in 1981. He concluded that voluntary patients tended to be White, young, married, and male. Involuntary patients were over 45, not married, Black, and female. He claims that legislative reform has done little to change the fact that “mental hospitals are still dumping grounds for minority groups ....”
In Arkansas, *Wessel v. Pryor* was filed on July 18, 1977, challenging the constitutionality of the involuntary commitment statute. The May 31, 1978, ruling was that the statutes were not unconstitutional, but that the courts had failed to apply them in a constitutional manner. A stipulation agreement stressed due process, protection of rights, and the restriction of involuntary commitments to people who were both mentally ill and dangerous, as evidenced by a recent, overt act. This agreement was incorporated into a new law signed by the governor on April 10, 1979. Faulkner, Bloom, and Kundahl-Stanley (1982) evaluated hospital admission trends over these years. They concluded that there was an initial decline, followed by an increase almost to the previous levels.

Four studies used a pretest-posttest design to look at the effect of more restrictive commitment laws, and none of them found significant changes in total admissions. However, there were some other findings of interest. Greeman and McClellan (1985) studied admissions to a veterans hospital following changes in the Minnesota law which made commitment more difficult. People admitted voluntarily tended to have a better chance of success following discharge. Following the enactment of a more restrictive law in Massachusetts,
Lippsitt (1980) found a decrease in length of stay and an increase in readmissions.

The remaining two pretest-posttest studies were done in Pennsylvania following changes in 1976 making the commitment law more restrictive. Munetz, Kaufman, and Rich (1980) considered a large number of demographic and diagnostic variables, but did not find any significant differences between admissions before the law change and those after. Appelbaum (1984) criticized this study for using only one facility, Western Psychiatric Hospital and Clinic. Haupt and Erlich (1980) could be subject to the same criticism. They studied admission patterns at Hahnemann Hospital before and after the change in the law. They excluded admissions who were from outside the catchment area, since they would not be tracked after discharge. They found the length of stay increased for both voluntarily and involuntarily committed patients after the legislative change. They attributed this to the severity of the disorder. If the law made it more difficult to commit people, people with less serious disorders, who would have been discharged more quickly, were no longer being admitted. Discharges against medical advice increased from 9% to 27% after the change in the law. This is consistent with the lessening of the authority of psychiatrists to hold people against their will.
Interrupted Time Series Design

Campbell (1969) recommends the use of an interrupted time series design to study the effects of social reforms, such as changes in laws. Rather than just comparing one time frame before the change and one after, as is done in a pretest-posttest design, multiple time segments before and after the change are studied. An example would be to use the total monthly admissions to a psychiatric hospital for each of five years before a change in the commitment law and for each of the five years after the change. Statisticians recommend including at least 50 data points (Tabachnik & Fidell, 2001).

Campbell (1969) discusses how this design handles threats to validity. Like the pretest-posttest design, the interrupted time series does not control for the potential effects of other change agents. However, it is easier to identify plausible rival hypotheses and do the supplementary research to evaluate them. If there is a distinct change in the direction of the data following a social change, the surrounding data points will establish that this change is not due to maturation. One of the main advantages of an extended time series is that it samples the instability of the time series, so that it can be determined if a change is significant or merely the result of normal fluctuation. This
design is still susceptible to regression artifacts. The widest use of this design has been to assess legislative impact (McDowall, McCleary, Meidinger, & Hay, 1980). Laws are an effect of the public’s reaction to a situation and it is difficult to determine if a change is also an effect of the public reaction or if it is an effect of the law. Examples of this are the studies which found anticipation effects, changes in psychiatric hospital admission rates before the commitment laws took effect (Durham & LaFond, 1985; Miller, 1992). Changes in both the law and the admission rate were effects of the same precipitant.

Webb, Campbell, Schwartz, and Sechrest (1966) instruct that a time series must be adjusted for population changes and caution that time may also change the composition of a critical group. In this study, the introduction of casino gambling in Atlantic City changed both the total population and the population demographics in one section of the catchment area of the hospital under study. More recently developed statistical procedures for time series analyses control for trends due to population changes (Tabachnik & Fidell, 2001).

Another potential problem with the time series design is that the hypothesis may only hold for the past. As Boring stated, "The seats on the train of progress all face
backwards..." (Boring, 1966, as cited in Webb, Campbell, Schwartz, & Sechrest). Cook and Campbell (1979) described some additional problems with interrupted time series designs. These included situations where the treatment was diffuse rather than rapidly implemented, the timing of effects is not always predictable, the recommended 50 observations may not be available, and the data may not be in the preferred form and may have missing elements or undocumented definitional shifts. Threats to validity include selection bias, seasonal changes, and instrumentation problems, such as changes in record keeping. Seasonal changes can now be controlled for with seasonal decomposition statistical procedures (SPSS Inc., 2005b).

Although they advocate the use of time series designs, Cook and Campbell (1979) classify them as quasi-experimental. Biglan, Ary, and Wagenaar (2000) argue that time series designs should be considered experimental. They point out that these designs are considered experimental in behavioral research and that the APA Task Force on Empirically Supported Clinical Practices has equated them with randomized trials.

In addition to the advantages of the interrupted time series design, there are also advantages to the use of archival data. The effect of the experimenter on the event
is eliminated. "... There is little danger that the act of measurement will itself serve as a force for change in behavior..." (Webb, Campbell, Schwartz, & Sechrest, 1966, p. 175). It eliminates the risk that cues from the experimenter or the appearance of the experimenter will contaminate the results. However, there are sources of error. According to the authors, the two main sources of bias are selective deposit and selective survival. In this study, the older records may not be as complete or as detailed as more recent records. The designation of information, such as diagnoses, are subject to the influence of the historical period, as well as to staffing changes. The conditions under which the data was collected have changed over time. Some records are lost over time. Also, the observer, as a data collection instrument, may change over time. Fatigue and practice are among the possible influences. Two methods of controlling for this are quality assurance sampling and having different recorders start at different time points.

Five studies that used variations of the interrupted time series design will be discussed. In 1976, Nebraska changed their commitment criteria from mentally ill to mentally ill and dangerous. Luckey and Berman (1979, 1981) did not find any significant change in the number of new admissions in the years surrounding this change, but found
an increase in readmissions after the change. McGarry (1981) did not find any change in readmissions following a similar change in the law in Massachusetts. This study did find a decrease in both total admissions and new admissions after the law change. This was accompanied by an increase in voluntary admissions. An interesting aspect of this study was that, as Appelbaum (1984) advocates, the admission trends in Massachusetts were compared to those in other states, to control for confounding variables.

Frydman’s (1981) study of the 1976 Kansas law did not find a significant change in admission rates. However, the time series design allowed the author to identify a downward trend in admissions that started two years before the change in the law. This could be the result of some confounding variable, or it could be a manifestation of the anticipation effect observed by Durham and LaFond (1985). Their study and the Miller and Fiddleman (1982) study are the only two studies discussed here so far which evaluated a broadening of the commitment criteria. In 1979, Washington broadened their commitment criteria from dangerous to gravely disabled. This followed their enactment, like many other states, of a more restrictive law in 1973 in reaction to the Lessard v. Schmidt (1972) decision. The broader 1979 definition was accompanied by a dramatic rise in admissions.
The authors conclude that, since these were new admissions, not readmissions, the increase was attributable to the change in the law. A larger pool of people had disorders which now met the criteria for commitment. The second significant finding of this study was that the increase in admissions started before the law took effect. This anticipation effect could indicate that admission trends are more influenced by the societal pressures which precipitate legislative changes than by the actual legislative changes (Miller, 1992).

Miller (1992) looked at admission trends in eight states that broadened their commitment criteria to include the need for treatment. Hawaii showed some fluctuation before, but a consistent increase in the years after the change in the law. The data for Arizona were incomplete due to the recency of the change, but will show a steady increase if the current trend continues. South Carolina also showed an increase after the law, but because that increase was in both involuntary and voluntary admissions, it is probably due to other factors. Thus, four states had the expected increase in admissions. The change in the other four states was not in the expected direction. Admissions in North Carolina declined after the new law. However, there were simultaneous changes in outpatient commitment, which
may have had a positive impact on the admission rate. Kansas and Colorado both showed an increase before and a decrease after the law. The statutes in these states could be interpreted as becoming more restrictive. Texas showed an increase before the change and fluctuation after. Alaska also showed an increase before the change in the law and then a consistent decline after. Miller (1992) interpreted these results positively. Critics of the need-for-treatment laws had predicted huge increases in admissions, as had occurred in Washington (Durham & LaFond, 1985). Miller’s (1992) study demonstrated that these predictions were not accurate.

In summary, the pattern of admissions to psychiatric hospitals following legislative changes frequently does not match the anticipated trend. The use of an interrupted time series research design, as advocated by Campbell (1969) and others (Appelbaum, 1985; Biglan, Ary, & Wagenaar, 2000) for studying social reforms, provides a more comprehensive view of the relationship between such changes in commitment laws and admission trends.

Purpose of This Study

The purpose of this study is to evaluate the effect of changes in the commitment statutes in New Jersey on hospital admissions. The results will have implications for
determinations of whether the statutes accomplished their intent and whether there were unanticipated effects on hospitalization trends. This study differs from most of the studies on the effects of changes in commitment laws by studying multiple legislative changes over a long period. Most of the reported studies evaluated the effect of just one revision of a state’s commitment law.

Hypotheses

The expectation of the study was that admission rates to a state psychiatric hospital in New Jersey would fluctuate with changes in the commitment law. A summary will be provided and then the specific hypotheses are itemized.

The 1965 law shifted the emphasis of the commitment criteria from dangerousness to welfare. It was expected that this broadening of the criteria caused an increase in admissions. A decline in admissions was expected following the 1988 implementation of the 1987 law that established screening centers and restricted the definition of mental illness. In 1994, the expansion of the definition of mental illness was expected to increase the number of admissions. Another increase in admissions was expected after the 1999 implementation of the 1998 Sexually Violent Predator Act, which clarified the 1994 postsentence commitment provisions for certain people serving prison time for sexual offenses.
The target dates on the chart are the dates the changes were implemented. The hypotheses are the expectations based on the broadening or tightening of the commitment laws.

Table 2. Hypotheses

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<tbody>
<tr>
<td>Total Admissions</td>
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<td>↓</td>
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Note: ↑ Increase    ↓ Decrease

The specific hypotheses follow. All the hypotheses refer to the New Jersey psychiatric hospital where the study was conducted and the people admitted to it.

1. There will be a significant increase in the level in the 1957 to 1971 series in August 1965.

2. When admissions from Ocean County are excluded, there will be a significant decrease in the 1985 to 1993 series level in November 1988.

3. There will be a significant increase in the 1989 to 1998 series level in November 1994.

4. There will be a significant increase in the 1995 to 2003 series level in August 1999.
Method

Participants

The participants were the patients admitted to a New Jersey state psychiatric hospital from the second full year of operation, 1957, to the end of 2003. The data from the first year was disregarded because many of the people admitted were transfers from other hospitals, rather than new admissions. The catchment area is the counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Ocean (after 1987), and Salem. To maintain confidentiality, the participants were identified only by hospital number in the database and only aggregate data will be reported. Demographic data on the participants was not available.

Research Design

The research design is an interrupted time series (Campbell, 1969). The time segments were 1-month intervals, starting with January 1957 and ending with December 2003. The target years were 1965, 1988, 1994, and 1999. The data were the total number of admissions to the hospital for each month.

Procedures

Following approval of the proposal by the dissertation committee, it was submitted to the Research Review Committee
at the psychiatric hospital and the Institutional Review
Board at Philadelphia College of Osteopathic Medicine for
approval. After receiving all approvals, data collection was
initiated.

A database was constructed from the information in the
hospital database, provided to the author on two computer
disks by the Director of the Management Information Systems
Department. To maintain confidentiality, patients were
identified only by their hospital number in the database and
only aggregate data will be reported. At the completion of
the study, the hospital numbers were deleted from the
database.

The hospital assigned hospital numbers in sequential
order to the people admitted. The number of admissions in
the database should have equalled the hospital number of the
last patient in the database. Since this was not the case, a
year-by-year analysis was done, and it was discovered that
approximately 6,627 entries were missing from the years
prior to 1989, out of 76,766 admissions for those years.
There was no obvious pattern to the missing entries. The
total admissions for the months in 1957 through 1988 were
determined by locating the last admission of the previous
month and subtracting the hospital identification number
from the last hospital number of the target month. When a
gap in the sequence occurred between months, making it impossible to determine which hospital numbers belonged in each month, the patient records were accessed to determine the admission date. This process also verified that the sequence gaps in hospital numbers were data entry omissions in the computer database and not actual gaps in hospital number sequence. This was confirmed by a visual inspection of the handwritten hospital admission log.

The duplicate case function of the SPSS (2005a) computer program was run. For 162 cases, the admission date, discharge date, date of birth, and gender were the same. These were assumed to be genuine duplicates, resulting from the merging of the two hospital databases, and one entry of each pair was deleted. The remaining 177 pairs were compared to the surrounding numbers to determine if the admission date was consistent with the hospital number. If a transposition of the number, or a change in one digit, resulted in a number that matched a missing number for the same admission date, it was assumed to be a typographical error and corrected. Approximately 147 entries were corrected in this manner. For the remaining entries (approximately 30), the member of the pair with the least identifying data was deleted.
The data were the monthly totals for hospital admissions. The null hypotheses that there would be no differences between the preintervention and postintervention segments of the time series, before and after changes in the civil commitment laws, were evaluated using ARIMA, autoregressive integrated moving average, modeling with the Trends Module of SPSS 14 (2005b).

ARIMA modelling is a method of removing trends, seasonality, and random error from a data set, so that they do not obscure the effects of an intervention (McDowall, McCleary, Meidinger, & Hay, 1980). Stationarity is a prerequisite for this modelling and is the situation where the mean value of the data remains constant over the length of the series. If this does not exist, it is achieved by differencing, which is done by subtracting each datum in the series from its predecessor (Garson, 2006). Once stationarity is achieved, the autoregressive and moving average components can be evaluated and a model defined that describes the patterns in the data (Tabachnik & Fidell, 2001). The parameters of the model are estimated, and the residuals are diagnosed to assure that they are random and contain no patterns. The best model is selected and is used to assess the impact of the intervention (McDowall, McCleary, Meidinger, & Hay, 1980).
Results

Figure 1 shows the annual hospital admission totals, with vertical lines illustrating when changes in the commitment laws took effect. The four target dates: 1965, 1988, 1994 and 1999, were analyzed independently of each other, and a time series model was developed and analyzed for each one. They were processed independently due to the complication of Ocean County being added to the catchment area of the hospital in 1987. For Hypothesis 1, Ocean County was not in the catchment area for any of the time segment

Figure 1. Total admissions per year.
under study, 1957 through 1971. During the entire periods under study for Hypotheses 3 and 4, 1989 through 1998 and 1995 through 2003, Ocean County was included in the catchment area. The data for Hypothesis 2 were adjusted to exclude all Ocean County admissions, since part of the period, 1985 through 1987, did not include Ocean County, and part of the period, 1989 through 1993, did include it. **Hypothesis 1**

Monthly admission totals for the 103 months from January 1957 to July 1965 were used to construct a time series model to determine if there was a change in the level of the series in August 1965, when the criteria for commitment shifted from dangerousness to welfare. The period from September 1965 to December 1971 provided 76 postintervention data points. There were no missing data points and no obvious outliers. Visual inspection of the graphed data (Figure 2) reveals fluctuating, but stationary, admission totals from 1957 through 1962, followed by a gradual upward trend in the fluctuating totals. A seasonal ARIMA \((0,1,1) \times (0,1,1)_12\) model was constructed from the preintervention data, with differencing required at lags 1 and 12 to achieve stationarity. When this model was applied to the entire series, the regression coefficient for the intervention was 7.341. The \(t\) value of .989 for this was not
statistically significant ($p = .324$). This indicates that there was no significant change in admission totals associated with the implementation of the new commitment law on August 27, 1965. Figure 2 shows the actual values of the data with a solid line and the postintervention values predicted by the ARIMA model with a dotted line.

Figure 2. Hypothesis 1 data, monthly admission totals surrounding the 1965 law.
Hypothesis 2

The hypothesis that total monthly admissions would decline following the November 7, 1988 implementation of the 1987 law, restricting the definition of mental illness and establishing screening centers, was evaluated with a time series extending from January 1985 to December 1993. The data were obtained by subtracting the total monthly admissions from Ocean County from the total admissions for each month. Figure 3 shows fluctuating monthly totals, with an upward trend that continues past the November 1988 intervention into 1989, before leveling off, with a possible downward tendency. There are 46 data points prior to the intervention and 61 following it, with no missing data points and no obvious outliers. In contrast to the periods covered by Hypotheses 1 and 3, no seasonal trend could be detected in this period. The data were differenced once to achieve stationarity. A nonseasonal (0,1,1) ARIMA model was identified. The regression coefficient at the intervention point is 2.439, with a standard error of 12.085. The t value of .202 was not statistically significant (p = .840). The anticipated decline in admissions associated with the 1988 implementation of this law is not evident. Figure 3 shows the actual monthly totals with a solid line and the postintervention values predicted by the ARIMA model with a
dotted line. The actual values approximate the predicted values for a period following the intervention, before deviating. The change in trend does not occur at the time the new law was implemented.

Figure 3. Hypothesis 2 data, monthly admission totals surrounding the 1988 law.
Hypothesis 3

A time series model for the total number of admissions per month was developed for the period of January 1989 through October 1994 and compared with the pattern of monthly data for November 1994 through December 1998 to explore a possible change in admission trends associated with an expansion in the definition of mental illness used as the criterion for admission to psychiatric hospitals. Figure 4 shows a fluctuating downward trend in monthly admission totals that continues through the intervention point. The legislation took effect October 31, 1994, so there are 70 data points before the change and 50 after the change. There were no missing data points and no obvious outliers among the monthly totals.

The 70-month preintervention series was used to identify a seasonal ARIMA \((0,1,2)(2,1,0)_{12}\) model, with differencing required at lags 1 and 12 to achieve stationarity. The regression coefficient at the intervention point was \(-2.771\), with a standard error of 5.429. The \(t\) value of \(-.510\) was not statistically significant \((p = .611)\). This indicates that there was no significant change in patterns of admissions to the psychiatric hospital associated with the expansion of the definition of mental illness on October 31, 1994. The pattern of actual
admissions shown by a solid line on Figure 4 seems to hover slightly above that predicted by the ARIMA model, shown by a dotted line, but any perceived difference was not great enough to achieve statistical significance.

Figure 4. Hypothesis 3 data, monthly admission totals surrounding the 1998 law changes.
Hypothesis 4

A time series model for total monthly admissions was used to explore a possible change in admission trends following the August 12, 1999, implementation of the Sexually Violent Predator Act, that allowed psychiatric commitment of sex offenders at the end of their prison

Figure 5. Hypothesis 4 data, monthly admission totals surrounding the implementation of the Sexually Violent Predator Act.
Admission trends for 55 months prior to the change and 52 months following the change were used. Figure 5 shows fluctuating values, with a possible downward trend, until 1998, prior to the intervention, when an upward trend starts. There were no missing data points and no obvious outliers. A preintervention series of 55 monthly admission totals, from January 1995 to July 1999, was used to identify a nonseasonal ARIMA (0,1,1) model, with differencing at lag 1 to achieve stationarity. The regression coefficient for the intervention is 1.271, with a standard error of 10.859. The t value of .117 was not statistically significant (p = .907). This indicates that there were no obvious changes in admission trends at the state psychiatric hospital under study at the time the Sexually Violent Predator Act was implemented. Figure 5 illustrates that the actual postintervention values, shown by a solid line, continue the upward trend started in 1998, and approximate the values predicted by the ARIMA model, shown by a dotted line, until 2001.

Additional Analyses

For Hypothesis 1 and Hypothesis 3, it appeared that there was a change in the admission trend that occurred prior to the effective date of the law change. To evaluate
this, the analyses were repeated, using the same ARIMA models, but using a different intervention date.

The subject of Hypothesis 1 was the 1965 law changing the focus of the commitment criteria from dangerousness to welfare. The law was passed August 26, 1965, and took effect immediately. As reported earlier, there was no significant change in admission trends when August 1965 was used as the intervention point. The same seasonal ARIMA model \((0,1,1)(0,1,1)_{12}\) was applied, using the intervention date of February, 1963. The regression coefficient was 12.838, with a standard error of 6.003. The \(t\) value of 2.139 was significant at the .05 level.

Hypothesis 4 was concerned with changes in admission trends associated with the implementation of the Sexually Violent Predator Act, passed August 12, 1998, with an effective date of August 12, 1999. As reported previously, there was no significant change in admission trends when the effective date was used as the intervention point. However, the data on Figure 5 seem to indicate a change in the direction of the trend from decreasing to increasing that occurred prior to the implementation of the law. The same nonseasonal ARIMA model \((0,1,1)\) was applied using the date of passage, August 1998, as the intervention point, instead of the August 1999 date of implementation. The regression
coefficient was $-19.006$, with a standard error of 10.283. The $t$ value of $-1.848$ was not significant.

**Summary**

There were no significant changes in trends of monthly admission totals to the state psychiatric hospital under study associated with any of the four dates, 1965, 1988, 1994, and 1999, when legislative changes were implemented. There was a significant upward change in trend in February 1963, prior to the 1965 law, but not in August of 1998, prior to the 1999 implementation of the 1998 law.
Discussion

In this study, there were no statistically significant changes in admission trends at one state psychiatric hospital at any of the four dates when major changes in the New Jersey commitment laws were implemented. This will be discussed in relation to other studies on the effect of legislation on actual psychiatric commitments. The admission patterns will be reviewed. Then, the implications will be discussed, along with the limitations of the study and suggestions for future directions.

Timing of Effect

If there is a change in admission rates, it may not occur on the effective date of the law. There are at least two possible explanations for this. Studies on the changes in the commitment laws of Washington (Durham & LaFond, 1985), Kansas (Frydman, 1981), and North Carolina (Miller, 1992) found an anticipation effect. Admission rates changed in the anticipated direction, but before the laws took effect. Something similar can be observed for the 1965 law in this study. This law, which took effect August 26, 1965, shifted the focus for commitment from dangerousness to welfare. One would expect an increase in admissions from this broadening of the criteria. When the effective date of the law is used, there is no statistically significant
change. However, when the same seasonal ARIMA model $(0,1,1) (0,1,1)_12$ is applied, using the intervention date of February 1963, the $t$ value of 2.139 is significant at the .05 level (regression coefficient = 12.838, standard error = 6.003). An alternative explanation is that the same change in attitude that motivated the change in the law caused people to change who they were recommending for admission, independent of the law.

This anticipation effect would appear to be evident in Figure 5, which shows the admission pattern during the time surrounding the implementation of the Sexually Violent Predator Act in August 1999. There appears to be a downward trend in admissions until January 1999, followed by an upward trend. However, when the intervention date is moved to February 1999, the change is still not statistically significant. This may be due to the large fluctuations in admission totals from month to month.

The timing of legislative impact is blurred by both legal events that preceded a new law and nonlegislative legal events. In New Jersey, some changes occur first in the court rules, before laws are passed to implement them. For example, the requirement that one of the committing physicians must be a psychiatrist appeared in the 1969 edition of the Court Rules, but was not included in
revisions of the commitment laws until 1994. The practice of holding people until they have housing, Conditional Extension Pending Placement (CEPP), has not yet been included in the commitment law and is done under the authority of the Court Rules.

Other changes happen in response to administrative decisions, before they are written into law. In 1974, periodic judicial reviews of commitments were implemented by a memo from Chief Justice Hughes (Aviram & Smoyak, 1994). It was not until 1976 that 3-month reviews were included in the Court Rules (Pressler, 1976).

The standards of proof for the judicial reviews have been established by court cases. In Wisconsin, the U.S. District Court ruled in 1972 that the proof must be "beyond a reasonable doubt" (Lessard v. Schmidt, 1972). The New Jersey case, State v. Krol, in 1975 set the standard to be "a preponderance of evidence." In 1979, Addington v. Texas increased the standard to "clear and convincing evidence."

Because of these multiple legal channels influencing the commitment process, it is difficult to set a specific date for studying the impact of a change. This is further complicated by the effect of changing attitudes on the decision to commit.
Another problem with the timing of the effect is that, although there is an effective date for a law, the actual provisions may not be implemented on that date. The 1987 law, with an effective date of November 7, 1988, is referred to as the Screening Law (Aviram, 1990; Kessen, 1994) because of the significance of the provision for local screening centers to review and divert hospital admissions. However, the two most populous counties in this study initiated their screening units prior to the law. The Atlantic County program opened in 1978, and the Camden County unit opened in 1985. Other counties opened their centers after the effective date of the law. With this wide range in dates, there is no one date that can be selected as the time for the impact to occur.

Major Trends

Figure 1 does not show any significant change in the upward trend of admissions at the time of the 1965 law. This is not surprising. The aspects of the law that significantly changed concerned discharge, not admission (see Table 1). There is a leveling off in admissions in the early 1970s and then a major drop in the late 1970s. This is followed by an upward trend starting in 1985. It is tempting to attribute these changes to the screening centers in the main population centers, Atlantic City and Camden. The personal
experience of the author can attest to the huge number of potential admissions that were diverted from the state hospital by the Atlantic City screening center. In contrast, Uri Aviram (1990) reports an increase in commitments

**Figure 6.** Total admissions per year by county: The admission totals for Atlantic County and Camden County are shown, with the dates that the screening centers opened, 1978 for Atlantic City and 1985 for Camden.
following the opening of the Camden screening center in 1985. He hypothesized that the center facilitated the admission process. However, Figure 6 illustrates that the admission trends for Atlantic and Camden counties were very similar, although their centers opened eight years apart. This indicates that the trends were due to factors more universal than the screening centers in the individual counties. It seems to follow the national pattern of favoring deinstitutionalization in the 1970s and then, in the 1980s, reacting against the problems caused by deinstitutionalization.

It was hypothesized that the broadening of the definition of mental illness in 1994 would allow more people to be admitted to the hospital, but there is no detectable change in the trend in Figure 1. It is likely that the screening personnel had already changed the definition in their own minds. The legislative sanctioning of the change had no impact.

Although the 1998 law provided for the commitment of an additional group of people, sex offenders completing their prison sentences, it also provided an additional facility to house them, so it is not surprising that there was no significant change in the admission trend at the hospital under study. There was a question as to whether an
overgeneralization to similar groups of people may have stimulated an increase in admissions, but the statistics did not support this. However, the direction shift in 1997, evident in Figure 1, may represent a shift in public opinion regarding hospitalization.

The Human Variable

If the anticipated effect of a statute is not observed, there is the question of whether the statute is being implemented. Bagby and Atkinson (1988, p. 57) cite five studies to support their claim that "there is little evidence to support the assumption that mental health professionals adhere to the legislative guidelines...." Turkheimer and Parry (1992, p. 646) cite an additional 13 references for their assertion that "a substantial body of empirical research...has been virtually unanimous in demonstrating that attorneys, judges and clinical examiners do not perform in a manner consistent with revised commitment standards and procedures." Appelbaum (1994) explains this as "statutes don't enforce themselves," and people will not enforce statutes that are in conflict with their beliefs. To balance this, there were at least three studies that concluded the statutes were being appropriately implemented (Lidz, Mulvey, Appelbaum, & Cleveland, 1989;

One type of deviation from the statutes is the consideration of factors outside the statute in making a decision on commitment. Research has indicated that these factors include: how the person functions in the family and in the mental health system (Warren, 1977), insurance (Fisher, Barreira, Lincoln, Simon, & White, 2001), the availability of hospital beds (Belcher, 1988; Engleman, Jobes, Berman, & Langbein, 1998; Thompson & Ager, 1988), family requests (Thompson & Ager, 1988), treatability (Brooks, 2003), the availability of appropriate alternative resources (Aviram, 1993; Brooks, 2003; Miller, 1987; Turkheimer & Parry, 1992), and the quality of the social support system (Lincoln, 2006; Mendel & Rapport, 1969). It is interesting that, in the older study, social supports reduced the likelihood of commitment, but in the more recent study they facilitated commitment. Psychiatrists and other screening personnel, as well as judges (Bursztajn, Hamm & Gutheil, 1997), let their focus stray from the statutes.

Several studies (Affleck, Peszke, & Wintrob, 1978; Brooks, 2007; Peszke, Affleck, & Wintrob, 1980; Tancredi & Clark, 1972) report that psychiatrists have an inadequate understanding of the commitment criteria in their state.
This partially explains why their commitment decisions do not match the statutes.

However, the personal characteristics and beliefs of the psychiatrist or other screener also influence whether a person gets committed. More experienced screeners commit fewer people (Mendel & Rapport, 1969), and people with risk-taking personalities commit fewer people (Engleman, Jobes, Berman, & Langbein, 1998; Satter, Pinals, & Appelbaum, 2006).

In explaining the lack of anticipated results in her study of the New Jersey screening law, Kessen (1994) describes Lipsky's theory of street-level bureaucracy. It is the front-line workers, not the legislators, who determine the criteria for commitment. These front-line workers, the psychiatrists and other screeners, have a paternalistic attitude (Brooks, 1979). They hospitalize those people who they believe need hospitalization (Levenson, 1986; Miller, 1987) because they believe they know what is best for them. Not surprisingly, psychiatrists are biased towards treatment, sometimes through hospitalization, being the best option (Kirk & Bersoff, 1996). Commitment decisions are influenced by the philosophy of the person making the decision, rather than the details of the statute.
Most of the time, this paternalism is benevolent. However, a study by Curlin, Lawrence, Chin, and Lantos (2007) indicated that 14% of physicians will make decisions for patients based on the physician's own moral beliefs and will not even inform the patient of alternative options. They are willing to use deception if they believe it benefits the patient or to protect themselves (Novack, Detering, Arnold, Forrow, Ledinsky, & Pezzullo, 1989). In addition, the more work that is required for honesty, the more likely they are to use deception (Werner, Alexander, Fagerlin, & Uber, 2002). Although this study was not specific to commitment, it is consistent with Stone's (1985) conclusion that psychiatrists' decisions regarding commitment are strongly influenced by their desire to avoid unpleasantness in court.

The methods used by front-line personnel to maintain the status quo, rather than implementing new commitment statutes, include modifying diagnoses (Wood, 1988) and exaggerating assaultiveness (Marx & Levinson, 1988). Screeners will manipulate their reports so they can fit people they believe should be hospitalized into the commitment criteria (Hiday & Smith, 1987). Kress (1979)
observed that ratings of dangerousness were better correlated with a psychiatrist's philosophy than with the objective facts of the situation.

In addition to characteristics of the individual screener that influence the decision to commit, there are events in the community that put social pressure on screeners to commit, as well as raising the awareness of the screener of the dangers of not committing someone. Whenever there is a news story of a horrific act of violence committed by someone with mental illness, screeners reduce the threshold for commitment and commitment rates increase (Goldstein, 1996). Events that threaten the community's feeling of security, even if not related to a person with mental illness, cause increases in commitment rates. An example is the increase in commitments after the September 11, 2001, attack on the World Trade Center (Catalano, Kessel, Christy, & Monahan, 2005).

As Roth (1980) concluded, it is people, not laws, that govern the decision to commit someone to a psychiatric hospital. The subjectivity of the decision may be influenced by ignorance, paternalism, personal philosophy, pressures from the community or the hospital, or fear of the consequences of the alternate decision.
Implications

Given the number of factors that influence a decision to admit someone to a psychiatric hospital, it is extremely difficult to associate that decision with any particular factor, such as a legislative change. Changes in commitment rates appear to be more an effect of the zeitgeist, the attitude of the time, than the written laws of the time.

Time series analysis appears to be the appropriate method for studying this type of social change. When studying data that are likely to have preexisting trends, it is critical in avoiding the problem of false significance, a hazard of pretest-posttest designs. However, intervention analysis may not be the correct statistical approach, since it is difficult to determine a specific intervention date. The change appears to occur at multiple points in time, and the timing is not predictable.

If the goal is to reduce hospital admissions or to keep dangerous people off the street, this and other studies indicate that laws dictating commitment procedures may not be the most effective method to accomplish such goals. Public attitude seems to be the most powerful influence.

Limitations

Some of the problems with interrupted time series designs described by Cook and Campbell (1979) were evident
in this study. The timing of the effect was not as predictable as expected. Additional analyses that had been planned could not be done because the older data was not as complete as the more recent data.

It is possible that the data were influenced by undocumented factors. For example, if the hospital census was high, there may have been pressure not to admit more people, influencing the admission totals. This study did not look at the hospital census, which would have provided additional information on hospital utilization.

For a complete picture of the effect of the laws on people with psychiatric disorders, admission data from all the state hospitals plus the county hospitals should have been used, as advocated by Bagby (1987). There is no obvious reason why the results of this study would not be generalizable to other state hospitals. However, it is likely that the introduction of the short-term care units in the medical hospitals had a major effect on both the numbers and types of admissions to state hospitals.

The manner in which the data were generated did not provide demographic information. This was a serious limitation because changes in the characteristics of who was being admitted could not be evaluated. Also, the percentages of voluntary and involuntary admissions were not evaluated.
Different trends may have been evident if these two categories had been evaluated separately.

This study focused on the civil commitment statutes for adults. The data were total admissions to a state psychiatric hospital. For part of the period under study, there was a children's unit at the hospital. There were also people admitted through the criminal justice system because they were incompetent to stand trial or not guilty by reason of insanity. The special issues related to these groups are beyond the scope of this study.

Future Directions

This study focused on admission and what influences the volume of admissions. The next step should be to look at length of stay and discharge. Is length of stay correlated with time between admissions? Some studies have indicated that shorter stays correlate with more frequent admissions. If this is true, what effect does this have on the person? The total number of days hospitalized per person should be studied over several years to determine if shorter hospitalizations reduce total time hospitalized or if the time equalizes due to more frequent hospitalizations. More importantly, what is the impact on the mental health of the person? For the person, is there a difference in the negative effect between total days hospitalized and the
number of separate admissions? If the person perceives each hospitalization as a separate failure, repeated hospitalizations might be significantly more devastating to their self-esteem than one long hospitalization. This would affect their chance for long-term success outside the hospital.

Conditional Extension Pending Placement and Conditional Release were initiated with the goal of ensuring the discharged patient had housing and the necessary support and services for success in the community. Studies should be done to evaluate whether these resources are indeed accessible and utilized, and whether they have been successful in reducing readmissions.

Another area that needs study is the utilization of psychiatric facilities by people with substance abuse problems. Some critics have claimed that more restrictive commitment laws have increased the percentage of violent patients in the psychiatric hospitals. In her study of commitments from the Elizabeth, New Jersey, screening center, Kessen (1994) found an increase in diagnoses of substance abuse from 3% in 1986 to 16% in 1992. The author's experience is that it has continued to increase. There is the possibility that the variety of drug that is most prevalent during a particular time, and the type of symptoms
manifested in someone with co-occurring mental illness and abuse of that drug, may significantly influence the types of symptoms and level of violence in people admitted to psychiatric hospitals. For example, during times when marijuana is the most commonly abused drug, the frequency of paranoia may increase in people with dual diagnoses of mental illness and substance abuse. When cocaine is prevalent, violence may increase. In addition, different mental illnesses may be differentially susceptible to extreme symptoms from different drugs. In summary, as substance abuse increases, differences in psychiatric hospital populations may be highly influenced by trends in drug use. More knowledge of this problem would allow the development of better services to address it and would provide a better understanding of influences on psychiatric hospital admission trends.
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