DUAL DIAGNOSIS IN PROVINCIAL PSYCHIATRIC HOSPITALS: A POPULATION-BASED STUDY

YEAR 1 SUMMARY REPORT

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Dual Diagnosis in Provincial Psychiatric Hospitals: A Population-Based Study
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EXECUTIVE SUMMARY

The purpose of the "Dual Diagnosis in Provincial Psychiatric Hospitals: A Population-Based Study" was to examine patients with a dual diagnosis served by Ontario's psychiatric hospitals. Using data generated from nine combined Comprehensive Assessment Projects (CAPs) in Provincial Psychiatric and Specialty Hospitals in Ontario from 1998 to 2002 (12960 patients), individuals with a dual diagnosis were examined in terms of demographic and diagnostic characteristics and clinical/support needs. This report summarizes findings from the first year of the three-year study.

Note: *This project is divided into two phases. Preliminary data reported here are from Phase 1 of the study,* ***Description of dual diagnosis subgroup and its needs in the PPH system****. Phase 2 of the study,* ***Key Informant study of dual diagnosis in the PPH system****, will begin in June of 2004. Key findings from Phase 1 of the study will be used to develop themes for semi-structured phone interviews with patients, caregivers, nursing staff, physicians and administrators from selected CAP sites. Speaking with them should provide a context for interpreting Phase 1 findings and an enlarged perspective.*

This project has been guided by an advisory group made up of representatives from the provincial psychiatric hospitals, the Ministry of Health and Long Term Care (MOHLTC) and the Ministry of Community, Family, and Children's Services (MCFCS), community mental health and developmental disability service providers, and family representatives (See Appendix A). It is funded by the Ontario Mental Health Foundation.

Dual diagnosis, for the purpose of this report is defined as a person with a developmental disability and concurrent psychiatric concerns.

KEY FINDINGS

Prevalence of Dual Diagnosis in Provincial Psychiatric Hospitals

As many as 13% of PPH users have a dual diagnosis, with some sites (e.g., Penetanguishene Mental Health Centre) identifying as many as 36% of their patients as having a dual diagnosis. Rates of dual diagnosis can be grossly underestimated when relying only on an individual's primary or secondary diagnosis (7.4% versus 12.3% in first six hospitals). Therefore it is important that the presence of a comorbid developmental disability be explicitly assessed as opposed to inferred based on a patient's primary or secondary diagnosis. Developmental disability is more common than any other disability in the psychiatric hospital population.

Recommendation:

- Hospital administrators, policy makers, the MOHLTC and MCFCS need to be made aware of high percentage of patients in the PPH system with a dual diagnosis as they are grossly underserved.

- Further investigation into differences in dual diagnosis prevalence rates across hospital sites is required, which should include a survey of services and supports available inside and outside of hospital for patients with a dual diagnosis.

Comparison of Patients with a Dual Diagnosis to those without

Individuals with a dual diagnosis are younger, more likely to be single and unemployed and living in dependant settings, with longer inpatient admissions than other individuals in the PPH system. They are less likely to receive certain diagnoses (substance abuse, mood disorder) but equally likely to be diagnosed as psychotic, and equally likely to have legal issues as other patients. Their most significant problems are in the areas of self-care, aggression and security / management issues but they have higher symptom ratings on most symptoms when compared to patients without a dual diagnosis combined with fewer economic, educational, internal and external (social support) resources. They have higher recommended levels of care than other patients and higher needs with regard to clinical services and supports.

Recommendations:

- Services provided by the hospitals and alternative programs developed under mental health reform should match the needs of individuals with dual diagnosis, recognizing that their needs are higher than the typical patient.
- All staff in the PPH system require training to recognize and meet the unique needs of patients with a dual diagnosis.
- Individuals specially trained in the area of dual diagnosis should be available to each program at each hospital to assist in providing appropriate assessment and treatment services to dual diagnosis patients.
- Interministerial cooperation is required so that patients with a dual diagnosis can access appropriate services through both systems in a cohesive manner.

Specialized Dual Diagnosis Programs

Seven specialized dual diagnosis programs continue to function within the Provincial Psychiatric Hospitals, serving 20% of patients with a dual diagnosis. Patients served by these programs are typically younger, more frequently male, and have significantly more issues related to aggression than other patients with a dual diagnosis. They have higher reported symptom severity and greater needs than other patients with a dual diagnosis. Despite being in specialized programs, their unmet need is even greater than for patients with a dual diagnosis in the generic hospital programs.

Recommendations:

- Greater efforts should be made to recruit and retain staff who are trained to work with patients with a dual diagnosis in specialized dual diagnosis programs, given how challenging these patients can be.
- Expertise available through dual diagnosis programs needs to be extended to provide support to the remaining 80% of individuals not in these programs.
- Appropriate resources must be provided so that current services can better match the needs of patients with a dual diagnosis in specialized dual diagnosis programs.

- Protocols and appropriate placement options need to be developed that take into account the severity of aggression displayed by patients served in specialized dual diagnosis programs.

Patient Characteristics

Provincial psychiatric hospitals are serving equal numbers of men and women with a dual diagnosis. They come from a range of backgrounds, ages, and residential settings. Most individuals with a dual diagnosis have limited education and are unemployed, two of the most important determinants of mental and physical health. The most common diagnosis given to people with a dual diagnosis is psychotic disorder, even in outpatient settings where mood and anxiety disorders are more prevalent in the general population. Mood and anxiety disorders are not common diagnoses although research would suggest that they are *undiagnosed*. The majority of individuals with a dual diagnosis served have mild developmental disabilities as opposed to severe impairments.

Recommendations:

- Further investigation into diagnostic practices with this population, it is necessary to determine whether psychotic disorders are being overdiagnosed while mood and anxiety disorders are being underrecognized. If this is the case, training is required to help clinicians make more appropriate diagnoses and treatment recommendations for these individuals.
- Further investigation into health disparities in this group, recognizing that they are less educated and less financially supported than the general psychiatric population, and that they are also less likely to have family and spousal social support is required.

Gender Issues

Equal numbers of men and women with a dual diagnosis receive services at the PPHs, however significantly more men are served in both inpatient settings and specialized dual diagnosis programs. Women and men do not differ diagnostically with the exception that men have higher rates of personality disorders and substance abuse. Women, on the other hand, like women in the general PPH population, are more likely to have experienced past trauma or loss than men, and they also have higher rates of suicide attempts prior to receiving PPH services.

Recommendations:

- Gender issues need to be considered in the treatment of individuals with a dual diagnosis in the PPH system in the same way that they are considered for other patients.
- Women's mental health programs need training on issues of concern for women with a dual diagnosis as well as ways to modify their approach to meet needs of such women.

Aging Issues

Older individuals with a dual diagnosis are more medically compromised than younger individuals and have unique clinical concerns and diagnostic issues. Their recommended

level of care is higher overall than the recommended level of care for other older adults but not when compared to younger individuals with a dual diagnosis. This is likely because aggression is less of a problem with these individuals than in younger individuals with a dual diagnosis. They have fewer documented experiences of loss and trauma than younger patients, although it is possible that service providers are simply less aware of these issues in this group.

- Services need to be modified to meet the unique needs of the aging group of individuals with a dual diagnosis.
- Staff in geriatrics need training on dual diagnosis and staff in dual diagnosis programs need training on aging issues.
- Further exploration of the older patient's experience with emotional events including loss and trauma is required.

Legal Issues

Individuals with a dual diagnosis (80% male) are as likely as anyone else to have legal problems. There is the same percentage of individuals with a dual diagnosis in the legal system as individuals without a dual diagnosis. These individuals tend to remain in the "unfit to stand trial" phase of the forensic process and may be hospitalized for long restrictive sentences as a result. They face serious difficulties when pursuing discharge options. Their needs are more severe than those of forensic patients without a dual diagnosis and patients with a dual diagnosis without forensic problems.

Recommendations:

- Specially trained forensic experts are required to deal with the unique difficulties faced by individuals with dual diagnosis in the forensic system.
- Further research is required to determine what the characteristics of patients with a dual diagnosis and legal issues are, and how their needs can be better met across the province.

Inpatients with a Dual Diagnosis

As has been reported elsewhere for individuals with developmental disability and the general population, inpatients with a dual diagnosis have problems of greater severity than outpatients and users of Homes for Special Care (HSCs). Inpatients with a dual diagnosis make up as many as 19% of inpatients served in the PPH system. However, resources for inpatients with a dual diagnosis are limited if not absent.

Long Term Inpatients

A significant proportion of inpatients with a dual diagnosis (37%) have been in hospital for longer than 5 years. These individuals have major medical comorbidities, and are significantly older than the general dual diagnosis population. They tend to be inpatients not because of the severity of their difficulties but because there are no appropriate places to discharge them.

Recommendations:

- Inpatient staff (nursing staff, allied health professionals, and physicians) need training to support inpatients with a dual diagnosis in terms of unique assessment and therapy concerns.
- Inpatient services should be modified to address unique needs of lower functioning individuals. For example, group therapies should be less reliant on verbal ability, memory and reasoning skills. More activities should be skill based and of shorter duration (e.g., 30 minutes versus 1 hour).
- Long term inpatients with a dual diagnosis should be re-assessed to determine whether their current admission is due to their high needs or the lack of appropriate alternatives. If indeed appropriate placements do not exist, funds should be allocated to create such placements and assist these individuals to leave the hospital setting.

Outpatients with a Dual Diagnosis

Outpatients with a dual diagnosis come from a variety of residential settings. A small proportion of these individuals are living with parents but the majority are either independent or living in group home or boarding home situations. They receive a mood disorder diagnosis more often than patients from other settings but are still probably overdiagnosed with psychotic disorders. Overall, their needs are higher than outpatients without developmental disability but typical outpatient services (e.g. level 2) are not designed for their higher needs.

Recommendations:

- Outpatient services for those with a dual diagnosis need to be enhanced to meet their high needs (e.g., more intensive services, crisis services combined with treatment, better communication between workers in the mental health and developmental disability sectors).
- Many crises could be prevented for outpatients with a dual diagnosis if a more proactive approach could be taken, which would include availability of an interdisciplinary team with an understanding of the developmental disability as well as the mental health concern.

Individuals Residing in Homes for Special Care (HSCs)

It seems likely that individuals residing in HSCs with a dual diagnosis are a diverse group of individuals with unique needs, depending on the home. Some parts of the province house many people with developmental disabilities in HSCs whereas other parts of the province report that HSCs are not designed for this population.

Recommendation:

- Further research is required to determine what the characteristics of HSC clients with a dual diagnosis are, and how their needs can be better met across the province.

INTRODUCTION

Developmental Disability: Overview

What is a Developmental Disability?

According to the DSM-IV, mental retardation is characterized by significantly subaverage intellectual functioning (IQ below 70 to 75), existing concurrently with related limitations in two or more of the following adaptive skill areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work. Mental retardation manifests before age 18. In Ontario, the term "mental retardation" is no longer deemed acceptable and has been changed in all legislation to "developmental disability." For the remainder of this report, therefore, the term "developmental disability" will be used.

How Many People have a Developmental Disability?

The true prevalence of developmental disability is estimated as 3% of the population. However, administrative prevalence (the number of cases based on who is receiving services) is significantly lower than that. Typical administrative prevalence rates fall around 1% although administrative prevalence in Ontario has been reported to be as low as .56% (Brown, Raphael & Renwick, 1997; Nuyen, 1996). The difference in rates is largely explained by individuals with more mild disabilities who may slip in and out of, or may never enter the service system. It is estimated that 85% of individuals with a developmental disability are in the mild range (IQ between 55 and 70), with 10% falling in the moderate range (IQ between 40-54) and 5% falling in the severe to profound range of disability (IQ below 40; DSM-IV, 1994). Administrative prevalence rate estimates do not vary significantly when concerning individuals with more severe disabilities (3-4/1000; Roeleveld, Zielhuis, & Gabreels, 1997).

Vulnerability to Health Problems in Developmental Disability

Individuals with developmental disabilities are vulnerable to the same health problems as the general population, and in many cases are at additional risk (up to 2.5 times more health problems) because of problems associated with their disability (Beange & Bauman, 1990; Martin et al., 1997; van Schrojenstein Lantman-De Valk, Metsemakers, Haveman & Crebolder, 2000). For example, they may have biological risk factors for illness related to the etiology of their disability (Dykens, Hodapp, & Finucane, 2000). In addition, they have difficulty accessing care at earlier stages of illness due to difficulties communicating their symptoms, their reliance on caregivers, and the reality that symptoms may present themselves in a unique manner because of their disabilities (Fernando, Cresswell, & Barakat, 2001; Hogg, 2001). To complicate matters, individuals with developmental disabilities may get medical problems diagnosed at later stages or might be overlooked outright because physicians do not have the training to recognize problems in this population (Evenhuis, Henderson, Beange, Lennox, & Chicoine, 2000; Lennox, Diggens, & Ugoni, 1997).

Dual Diagnosis: Overview

One health concern that has received significant attention as it relates to individuals with developmental disabilities is psychiatric illness/disorder. A "dual diagnosis" refers to the presence of a psychiatric diagnosis and/or serious behaviour difficulty in a person with a developmental disability. The following section will review what is known about dual diagnosis prevalence, service utilization trends, risk factors, issues related to severity of disability, gender, aging, challenging behaviour and how it relates to dual diagnosis, and finally unique attributes of patients with a dual diagnosis. It will conclude with a brief summary of best practice for the assessment and treatment of dual diagnosis.

Dual Diagnosis: Prevalence

Prevalence estimates for dual diagnosis vary widely from 10% to 80% (Borthwick-Duffy, 1994; Crews, Bonaventura & Rowe, 1994), with conservative estimates ranging between 30% and 40% (Yu & Atkinson, 1993), compared to 20% in the general population. Such discrepant findings are partially the result of research design artifacts (for a detailed review, see Borthwick Duffy, 1994) including sample selection (clinical, community, hospital based), how dual diagnosis is defined (DSM-IV diagnosis, Axis I only, mental health problems or behaviour problems), and assessment procedures used (chart review, informant ratings, self-report). Psychotic disorders, mood disorders, anxiety disorders and personality disorders have all been reported to occur in individuals with developmental disabilities at rates higher than the general population. However, many studies have commented on the relative overdiagnosis of psychotic disorders and the underdiagnosis of mood and anxiety disorders (e.g., Robertson et al., 2000). Pervasive developmental disorders are present in more than 25% of individuals with developmental disabilities and rates of additional psychiatric difficulties in this group are especially high (Bradley & Bryson, 1998). Several researchers have noted that rates of psychotropic medication utilization are very high in individuals with developmental disabilities (50%; Lunsky, Emery, & Benson, 2002; Molyneux, Emerson & Caine, 1999), with antipsychotic medication in particular being over-prescribed, despite their being no strong evidence of its efficacy in individuals without psychosis (Molyneux et al., 1999; Robertson et al., 2000; Stenfert Kroese, Dewhurst & Holmes, 2001).

Dual Diagnosis: Service Utilization

Rates of service utilization for individuals with a dual diagnosis are often much lower than one would predict given the prevalence estimates, according to the few studies that have examined rates of service use. In Gustafson's Swedish study (1997), 0.9% of all individuals with a developmental disability had received inpatient psychiatric treatment, compared to 1% of the general population, despite rates of psychiatric problems being 3 to 4 times as common in those with developmental disabilities. In The Netherlands, Driessen, DuMoulin, Haveman and van Os (1997) reported that 10% of adults receiving developmental disability services sought mental health treatment and that 3% had a psychiatric inpatient admission in an eleven year period. In a British study on cost of services (Smith et al. 1995), although individuals with developmental disabilities had the highest service costs, they used medical services for psychiatric consultations the least of all psychiatric groups surveyed. A record linkage study of secondary care contacts in the

UK (Morgan, Ahmed & Kerr, 2000) found that individuals with developmental disability accounted for 1.37% of inpatient psychiatric admissions and 0.8% of outpatient psychiatric visits. They reported that a higher proportion of individuals with developmental disabilities were receiving psychiatric care than the other European studies (16.5%). Although service utilization rates have not been reported in Canada, a recent survey noted that there were very few resources available to individuals with a dual diagnosis across the nation given the extent of service need (Lunsky & Bradley, 2001).

Risk factors for dual diagnosis

Dual diagnosis has many predisposing, precipitating and perpetuating risk factors, which should be identified as part of assessment and treatment of difficulties. These risk factors are summarized below (Deb, Matthews, Holt & Bouras, 2001):

Biological factors

- Genetic liability (e.g., behaviour phenotypes)
- Structural abnormalities in brain (e.g. frontal lobe impairment)
- Interaction between environment and existing physical disabilities (e.g., cerebral palsy, hearing impairment)
- Epilepsy (14 –24% of people with developmental disability)
- Abnormal thyroid function
- Prescribed and non-prescibed medications

Psychological factors

- Impaired intelligence
- Impaired memory due to dysfunction of temporal lobes
- Impaired sense of judgement and lack of initiative caused by frontal lobe damage
- Lower thresholds for stress tolerance
- Poor self-image
- Immature psychological defence mechanisms when under stress (e.g., regression)
- Inability to solve problems using abstract thinking
- Learned dysfunctional or abnormal coping strategies
- Lack of emotional support

Social factors

- Under or over-stimulating environment
- Conflicts with family members, residents, or staff members
- Issues regarding lack of social support
- Difficulties developing fulfilling relationships
- Problems finding employment
- Physical, sexual and psychological abuse
- Lack of appropriate social exposure and patronisation by others

Dual Diagnosis and Severity of Developmental Disability

Some studies have reported that individuals with more severe disabilities have higher rates of psychiatric difficulties (Gostason, 1987; Haveman, Maaskant, van Schrojenstein Lantman de Valk & Urlings, 1994) while others have reported the opposite trend (Gustafsson, 1997; Iverson & Fox, 1989; Jacobson, 1990), and still others have reported no differences (Benson, 1985; Corbett, 1979). What does seem to be true is that individuals with more mild difficulties tend to receive services from psychiatric hospitals more frequently than individuals with more severe disabilities (Borthwick-Duffy, 1990; Driessen et al., 1997; Gustafsson, 1997; Burge et al., 2002). It may be that individuals with more severe disabilities are already receiving more clinical services because of their disability or it may be that psychiatric problems are less easily recognized and treated in these individuals (diagnostic overshadowing; Reiss & Syszko, 1983) and they are underserved as a result. Findings on severity of disability and dual diagnosis must take into consideration that there are more people with mild disabilities (85%) than severe disabilities (10%-15%) so this should be reflected in service estimates for dual diagnosis.

Gender and Dual Diagnosis

Few studies have examined gender differences in the rate of mental health problems in men and women with developmental disabilities. The handful of studies that have been done (e.g., Borthwick-Duffy & Eyman, 1990; Crews et al., 1994; Iverson & Fox, 1989) have reported discrepant findings in overall differences between men and women. When gender differences are examined by disorder for adults with developmental disabilities, similar trends have been reported to the general population (e.g. Benson, 1985; Koller, Richardson, Katz & McLaren, 1983; Reiss, 1988). Depression has been found to occur more often in women with developmental disabilities (Benson, 1985; Lunsky & Benson, 2001; Meins, 1993; Reiss, 1982; Reiss, 1988; Reiss & Trenn, 1984) although bipolar disorder has been found to occur equally often (Glue, 1989). Simple phobias may be more common in women than men (Gullone, Cummins & King, 1996) and PTSD may be more common for women as well, in part because they are more susceptible to abuse, particularly sexual abuse (Ryan, 1994). The few studies that have reported on gender differences in psychotic disorder have not found different prevalence rates in men and women with developmental disabilities (Benson, 1985). There is limited research on substance abuse, gender and developmental disability (Delaney & Poling, 1990) with the exception of one study (Westermeyer, Phaobtong & Neider, 1988) noting that the sex ratio of substance abusers was 2:1 men to women, similar to the general population.

Aging and Dual Diagnosis

Several studies have documented increased risk for medical problems in older adults with a dual diagnosis compared to younger adults (Cooper, 1997; Cooper, 1999; Pary, 1993) although whether rates of psychiatric difficulties increase with age is unclear. In Pary's review of 247 inpatients with developmental disabilities discharged from a University hospital over a 62-month period, individuals older than 55 were more likely to be discharged to a state hospital, and more likely to have an axis III diagnosis. The most common diagnosis in older and younger individuals was psychotic disorder. In Cooper's research, which included not only hospitalized individuals but all individuals with developmental disabilities in a geographical catchement area, older individuals (over 65)

had higher rates of dementia, depression and anxiety but similar rates of psychosis, pervasive developmental disorders and behaviour disorders. In Janicki et al.'s study (2002) in New York State of community residing older individuals, rates of psychiatric difficulties were highest for individuals younger than 50 and then declined with age. Jacobson (2003) has suggested that higher rates of psychiatric difficulties and behaviour problems in older individuals with developmental disabilities are largely associated with the aging process and dementia but that rates of psychiatric problems are higher in older people with developmental disabilities than those without developmental disabilities.

How is Challenging Behaviour / Aggression related to Dual Diagnosis?

Challenging behaviour is defined as behaviour likely to limit or delay access to and use of ordinary community facilities, or behaviour which, because of its intensity, frequency, or duration, puts the physical safety of the person or others in serious jeopardy (Emerson et al., 1987). Although some individuals consider challenging behaviour to be an alternative term for dual diagnosis, in its strictest form, exhibiting challenging behaviours (self injury or aggression to property or others) does not imply the presence of a psychiatric impairment. The causes may be both environmental and biological. Numerous studies have documented the high rates of challenging behaviours in people with developmental disabilities. Several researchers have argued that it is the challenging behaviours that lead people with developmental disabilities into crisis situations and subsequent psychiatric hospitalization. Moss et al. (2000) tried to determine what proportion of individuals with challenging behaviour met criteria for a psychiatric disorder. They found that aggression was often associated with psychiatric symptoms, particularly depression and hypomania. Self-injurious behaviour was associated with symptoms of anxiety. They argued that challenging behaviour be better integrated into diagnostic criteria for psychiatric disorders in this population. Davidson et al. (1994) reviewed 198 cases referred to a specialist dual diagnosis service over 3 years and noted that 66% of the individuals referred were aggressive at time of referral. Other studies have also found aggression to be the primary reason for psychiatric referral (e.g., Addington, Addington & Ens, 1993; Hurley, Folstein & Lam, 2003). The best predictor of aggression in the Davidson study was a history of aggression, as well as gender (being male) and a history of institutionalization. Antipsychotic medication is a common treatment for aggressive individuals (Davidson et al., 1994; Robertson et al., 2000) although its efficacy is questionable (Molyneux et al., 1999; Stenfert Kroese et al., 2001).

Who Receives Specialized Dual Diagnosis Services?

Few studies have considered how individuals receiving specialized dual diagnosis services differ from individuals receiving non-specialized services. Lowe, Felce, and Blackman (1995) compared individuals with severely challenging behaviour and developmental disability in specialized and non-specialized programs and found that the two groups did not differ with regard to adaptive behaviour or psychopathology. The main difference between the two groups was that individuals referred to the specialist teams had behaviours that were more outwardly aggressive or dangerous in nature. Behaviours of concern to the individual, that impaired that individual's ability to progress/succeed did not lead to referrals although they could be as serious. Raitasuo, Taiminen and Solokangas (1999) compared patients referred to a specialized dual

diagnosis inpatient unit in Finland to a randomly selected sample of adults with developmental disabilities. Patients in the specialized program were more often male (70% versus 50%) and tended to be higher functioning. They had moved more often during their lifetime, were more likely to have a past psychiatric diagnosis but did not differ with respect to medical comorbidity. The most common diagnosis was psychotic disorder, and the admission was typically precipitated by affective or disruptive behaviour. Murphy, Holland, Fowler and Reep (1991) and Xenitidis, Henry, Russel, Ward and Murphy. (1999) have described inpatients from a well-researched specialized inpatient unit (13 beds) for individuals with mild developmental disability and challenging behaviour in the UK (MEITS). In Xenitidis et al.'s chart review, the most common reason for admission was aggression (58%), followed by dangerous sexual behaviour (20%), and fire-setting behaviour (18%). Most admitted patients had a legal history. Patients tend to be young, and more often male (72%). About half of the sample was diagnosed with psychotic illness and 17% of them were diagnosed with autism.

How do Patients with a Dual Diagnosis Differ from Other Patients Receiving Psychiatric Services?

A detailed review is provided below of the few studies in the past 10 years that have compared larger samples of individuals with a dual diagnosis to psychiatric patients without a dual diagnosis. In all the studies, the majority of patients had mild developmental disabilities, with the exception of Hurley et al. (2003) where half the sample had moderate to severe developmental disability. Length of stay did not differ for patients with a dual diagnosis to patients without a dual diagnosis in acute psychiatry inpatient settings in two studies (Addington et al., 1993; Burge et al., 2002) but individuals with a dual diagnosis had longer lengths of stay than other patients in Lohrer, Greene, Browning and Lesser (2002). Problems with aggression were commonly reported and were noted as more frequent problems in those with a dual diagnosis than in those without (Glick & Zigler, 1995; Hurley et al., 2003; Lohrer et al., 2002). Psychotic disorder diagnosis was the most common diagnosis in all reviewed studies with the exception of Hurley et al. (2003) where depressive disorders were most common. (Hurley et al. was the only outpatient based sample and it is possible that the severity of difficulty was lower in these individuals).

Addington et al. (1993)

This study was based on a retrospective chart review of all patients with a dual diagnosis admitted to two Calgary Alberta general hospitals. Thirty-four individuals as a group were admitted 49 times over a two-year period, and were compared to 34 individuals without a dual diagnosis, admitted immediately after the admission of each dual diagnosis patient.

The mean age of admitted dual diagnosis patients was 29.3 years, and 46% were male. Seventy-eight percent of admissions had mild, 14% moderate, and 8% severe/profound developmental disability. Thirty-eight percent of admissions were diagnosed with psychotic disorder, followed by personality disorder (25%, 14% antisocial personality disorder) and half of admissions had a known history of psychiatric hospitalization.

Patients showed the full range of psychiatric disorders as did their non-dually diagnosed counterparts and did not differ from other patients with regard to length of stay. The authors considered the admissions to be appropriate, with 83% of patients presenting as a danger to themselves or others at admission. Danger to others was more common than danger to self, although 18% of patients with a dual diagnosis were suicidal at admission. The authors commented that only 28% of admissions exhibited behavioural disturbance during their stay. Overall, they did not perceive these patients to be very different from the typical patient admitted to those hospitals.

Glick & Zigler (1995)
This study compared 93 patients with mild developmental disability in the three Connecticut State Psychiatric Hospitals to a matched sample of individuals without a dual diagnosis over a two-year period. Half of the sample of individuals with mild developmental disability had behaviour/impulse control problems as primary concerns, which was not found for the matched sample. Individuals with a dual diagnosis were more likely to exhibit symptoms of turning against others (aggression) as opposed to turning against self, symptoms involving expression in action rather than thought, and hallucinations in the absence of delusions.

Lohrer et al. (2002)
This study was based on chart reviews of clinician identified patients with a dual diagnosis from 10 general hospitals in the New York City area during a three month period in 1998. Sixty-six adults with a dual diagnosis were compared to 66 other psychiatric patients admitted in the same period by the same clinicians.

The mean age of admitted dual diagnosis patients was 33.6 years, and 58% were male. Fifty-five percent of admissions had mild, 23% moderate, and 22% severe/profound developmental disability. Thirty six percent of admissions were diagnosed with psychotic disorder, followed by impulse control disorders (32%) and only 42% of admissions had a known history of psychiatric hospitalization.

Patients with and without a dual diagnosis did not differ with regard to ethnicity or gender distribution, nor did they differ in terms of use of outpatient services. Patients with a dual diagnosis were significantly younger than other patients, they were less likely to live alone, be homeless or live with family, and they were more likely to already be receiving case management or vocational/day program services. The only psychiatric diagnosis more common in those with a dual diagnosis was impulse control disorder. This diagnosis may be given to individuals with developmental disabilities who have serious problems with aggression but no clear underlying Axis I disorder. Individuals without a dual diagnosis were more likely to have a diagnosis of substance abuse. Individuals with a dual diagnosis were more likely to be admitted because of aggression (assaultive behaviour, destruction of property and self-injurious behaviour) than other patients. They also had higher rates of comorbid medical conditions (57% versus 37%). They were more likely to require 1:1 staffing while in hospital, and had longer lengths of stay than other patients.

Burge et al. (2002)
This study was based on retrospective chart review of all patients with a diagnosis of mental retardation or pervasive developmental disorder in a four-year period from 2 general hospitals in the Kingston Ontario area. Identified patients were then matched with a random sample of individuals without a dual diagnosis admitted in the same period.

Patients with a dual diagnosis (101 admissions) made up approximately 2.5% of psychiatric admissions. The majority of these individuals were only admitted one time (71%) and they were evenly split between men and women. Sixty percent of individuals had mild, 30% had unspecified, and 8% had moderate developmental disability. Rates of severe and profound disability were less than 2%. The most common diagnosis was psychotic disorder (29%) followed by mood disorder (21%), and substance abuse (15%). Eighteen percent of individuals had a personality disorder diagnosis.

Patients with a dual diagnosis were typically younger than other patients and they were more likely to be discharged to another service provider (hospital or health/social service agency) than other patients. They did not differ from other patients with regard to length of stay.

Hurley et al. (2003)
This study was based on medical chart reviews of the first psychiatric diagnostic evaluation of the most recent 100 adult outpatients with a dual diagnosis and mild developmental disability, 100 outpatients with a dual diagnosis and moderate to profound developmental disability, matched with 100 outpatients of average intelligence, receiving services at the Tufts-New England Medical Center, Boston, MA.

The three groups did not differ with regard to gender distribution, age or racial background. Individuals with a dual diagnosis were more likely to be living dependently, single and without children. Comorbid physical disabilities and medical conditions were more common in those with a dual diagnosis than those without but there were no differences between the severe and mild groups. Family history of psychiatric disorder was more common in individuals without a dual diagnosis.

The most frequent presenting problem in individuals without a dual diagnosis was depression or anxiety but the most frequent problem for those with a dual diagnosis was aggression, “other behaviours” and physical complaints. Physical complaints or changes in observed physical status were more commonly reported in those with more severe disability. Suicidality and anxiety were more commonly reported in those with mild disabilities versus severe disabilities. Depressive disorders were the most common diagnosis for all groups, followed by bipolar disorder for those with a dual diagnosis. In contrast to earlier studies and studies based on inpatient samples only, psychotic disorders were much less common (4% in normal, 7% in mild and 3% in severe). Personality disorders were more commonly diagnosed in those without a dual diagnosis.

With regard to treatment, individuals with a dual diagnosis were more likely to be prescribed antipsychotic medication (32% versus 14%) even though they were no more

likely to be considered psychotic and were less likely to be prescribed anxiolytic medication (11% versus 22%). There were no differences in prescription rates for mood stabilizers or antidepressants. Diagnostic and prescription patterns are somewhat different in this study than earlier studies. The authors attribute this in part to a strong history of training and research in psychiatric disorders and developmental disability.

Studies reviewed above were based on patients from acute as opposed to tertiary settings, and each study included either outpatients or inpatients but not both. Several trends can be noted from these studies, with regard to how patients with a dual diagnosis differ from the typical psychiatric patient, and are listed in bullets below. Whether similar trends would be reported for individuals receiving tertiary psychiatric care is an empirical question worthy of examination.

Summary: Dual Diagnosis Patient Profile

- Younger
- More men than women in specialized dual diagnosis programs
- **?** dependent living (with family or group home)
- **?** married, with children
- same or longer length of stay than other psychiatric inpatients
- **?** comorbid medical conditions
- **?** aggression / impulse control disorder
- **?** substance abuse
- **?** antipsychotic medication

Dual Diagnosis: Best Practice

Many articles, chapters, and books have been developed on this topic (e.g., Davidson, Prasher & Janicki, 2003; Day, 1993; Deb et al., 2001; Lennox et al., 1997). Experts agree that best practice requires comprehensive interdisciplinary assessment and treatment. Some individuals clearly benefit from inpatient services, however, outpatient programs and outreach /consultation programs are also important and have demonstrated efficacy. Proper treatment requires collaboration between the mental health sector and the developmental disability sector, and adequate funding that is not dependent on criteria developed for the general population. Well-trained professionals in both mental health and developmental disability are essential for any program to succeed.

Dual Diagnosis in Ontario

Historical Context

To fully understand issues related to dual diagnosis in Ontario, a historical context is required. Prior to the Normalization movement in the 1970's, developmental disabilities were considered to be "medical conditions" that required constant professional care from physicians and nurses, much of which occurred in institutional settings (Radford & Park, 2003). In 1971, 31 institutions were operating in Ontario, the largest being Huronia Regional Centre (1857 individuals) and Rideau Regional Centre (2070 individuals). Normalization, its goal being total integration into the community, introduced a dramatic shift in the philosophy of care (Wolfensberger, 1973) for all persons with developmental

disabilities, including those with comorbid psychiatric impairments. Institutional life was no longer an acceptable option.

In Ontario, the province containing half of the country's population and half of its institutions, responsibility for adults with developmental disabilities was transferred from the Ministry of Health to the Ministry of Community and Social Services in 1974. This change in ministerial responsibility was a major advance, as it encouraged the development of community living residences and reduced reliance on institutional living. However, medical, particularly specialized psychiatric, care became less of a priority (Zarfas, 1988). Only three Schedule 1 facilities (versus 14 in 1971) are still in operation in Ontario, with 1100 residents (as of February 28, 2002, Radford & Park, 2003). As institutions across the province closed, individuals with a dual diagnosis were forced to access generic mental health services. However, appropriate structures were not put in place to allow them to do this easily.

In selected parts of the province, specialized dual diagnosis programs were developed within the Provincial Psychiatric Hospital system to meet the needs of individuals who could no longer seek services through the institutions. These programs were unevenly distributed across the province, and were dependent on specifics of the local service delivery system. At one point, the programs had regular meetings with each other but this has not occurred in recent years. Only seven such programs (five inpatient/outpatient and two outpatient) continue to operate and they cannot possibly meet the needs of all individuals in Ontario who require tertiary psychiatric care.

Current Situation

Dual diagnosis has been estimated to occur in as many as 85 000 people in Ontario (Yu & Atkinson, 1993) based on prevalence rates reported in other parts of the world, however limited research has been conducted. Only two major studies on dual diagnosis have been completed in Ontario in the past 10 years: an epidemiological study by Bradley and Bryson in the Niagara Region (1998), and a provincial study on aberrant behaviour by Atkinson and Feldman (1994); Neither study included individuals from the Provincial Psychiatric Hospitals. In the former study, new onset psychiatric disorders were noted in 17% of adolescents with a developmental disability (not autism) and in 44% of adolescents with autism. The most common psychiatric problem in both groups was depression and other mood disorders. It is quite likely that these numbers would be higher if the screens were completed in adulthood, as research suggests that dual diagnosis prevalence rates increase in adulthood. Feldman and Atkinson reported that 46.8% of adolescents and adults with developmental disabilities randomly sampled from across Ontario in community settings and Schedule 1 Ministry of Community, Family, and Children's Services (MCFCS) facilities (institutions for people with developmental disabilities) displayed aberrant behaviour, primarily aggression and depression. They also noted that aberrant behaviour decreased with age for adults.

There is no information on how many patients with a dual diagnosis in Ontario receive their psychiatric care from Provincial Psychiatric Hospitals and how many individuals receive their psychiatric care from acute care settings, nor is their any information on the

characteristics and needs of such patients so that their needs can be better met. Outside of the 7 specialized dual diagnosis programs in the provincial hospitals and the three remaining Schedule 1 MCFCS facilities (institutions), tertiary and acute care hospital staff are not trained to work with people with a dual diagnosis, nor are they properly compensated for the additional time such patients demand (Lunsky & Bradley, 2001; McCreary, 2001; Zarfas, 1988). These systemic problems can lead to misdiagnosis, inappropriate treatment, and an over-reliance on psychopharmacological intervention, leading researchers in the UK and the U.S. to conclude that serving individuals with a dual diagnosis in the generic psychiatric system simply does not work (Day, 1993).

The primary goal of mental health reform is to improve the care of individuals with severe and persistent mental illness. In Ontario, individuals with a dual diagnosis are recognized as part of this group (Ministry of Health and Long Term Care [MOHLTC], 1999). Many individuals with mental health problems can function in their community with case management and outpatient psychiatry services, and the occasional acute care inpatient hospital admission. There are a subgroup of individuals, however, with severe mental illness that depend on the tertiary services provided by the province's psychiatric hospitals. Patient characteristics that require tertiary care include aggressiveness, noncompliance with medication, danger to self/others, and inappropriate sexual behaviour. Treating such individuals in secondary care level settings or settings with inadequately trained staff can be quite detrimental and dangerous (Wasylenki et al., 2000). Thus, it is essential that mental health system reform decisions affecting people with serious difficulties including individuals with a dual diagnosis occur in an informed, planned manner. The unique needs of individuals with a dual diagnosis served by the PPH system must therefore be systematically studied, so that appropriate adjustments to their care can be made.

The Comprehensive Assessment Projects (CAPs)

The Comprehensive Assessment Projects (CAPs) are a series of mental health system planning projects that used best practices and survey methods to inform mental health reform in Ontario, as outlined in the MOHLTC's *Making it Happen* document (1999). A total of nine Hospital Comprehensive Assessment Projects (CAPs) were completed in the province of Ontario between 1998 and 2002. Intended as system planning tools, each project generated data on the demographics, diagnostic, service use and needs profile of patients who were currently enrolled in inpatient, outpatient and HSC programs at each Provincial Psychiatric Hospital at the time of assessment. For each site, a representative, random sample of assessments was obtained by local staff, trained to use the Colorado Client Assessment Record (CCAR). A consistent methodology was used across the sites, which allowed the nine separate data sources to be merged together into a single database for analysis. Having this database offers a unique opportunity to examine the needs of persons with serious mental illness enrolled in hospital mental health programs in general, and the needs of dual diagnosis clients in particular.

Purpose

The purpose of the current project was to examine the dual diagnosis subgroup of the CAPs database in closer detail, in relation to the general PPH population. By gaining a more comprehensive understanding of adults with a dual diagnosis served by the PPH system, evidence-based recommendations can be made with regard to their treatment. Identification of the unique needs of the dual diagnosis subgroup, compared to the general PPH population would be a first step toward improving their psychiatric care and should guide mental health reform.

METHOD

Sample Selection

Patients were drawn from the nine provincial psychiatric hospitals responsible for providing tertiary mental health services to defined catchement areas of urban, semi-urban and rural communities. At each facility, all individuals receiving inpatient services on a specified census day were assessed. In addition, samples of individuals receiving outpatient services and living in HSCs over a three month period were drawn randomly, stratifying by program. For each patient, the presence of a developmental disability was recorded on the first page of the CCAR form (described in the Measures section; See Appendix B). Also captured was whether the client had a psychiatric diagnosis of mental retardation or developmental handicap and whether or not the patient was involved in a specialized dual diagnosis program.

Measures

Colorado Client Assessment Record (CCAR)

The CCAR is a tool for conducting a comprehensive functional client assessment. It was developed during the 1970s in Colorado and has been revised over subsequent decades. The CCAR has been used across the U.S. for making decisions related to level of care and for assessing change over time in hospital and community mental health patients / clients. The CCAR has been validated for use in Ontario. The tool has been used in all 9 provincial psychiatric hospitals (Northwest Region [Lakehead PH], Southwest Region [London/St. Thomas PH], Central west Region [Hamilton PH], East Region [Brockville PH], Northeastern Region [North Bay PH], Southeast [Kingston PH], and Central East Penetanguishene and Whitby Regions [Mental Health Care Penetanguishene and Whitby Mental Health Centre, respectively], and Toronto region [Centre for Addiction and Mental Health]). Furthermore, the tool has recently been adapted for the 9 community regions of mental health.

The CCAR provides basic client information such as current diagnosis and history of illness; legal, marital, employment, and education status; and residential stability. It then assesses impairment and strengths in 26 domains related to symptoms, behaviours, and social and community functioning. Each of these is rated on a 9-point scale from 1 (high functioning/no special problem) to 9 (low functioning/extreme problem of difficulty).
The CCAR ratings rely on program staff's knowledge of the client, input from other staff, as well as program records/charts. Interviews of the client are not required. The CCAR is not completed if staff are not sufficiently familiar with the sampled client. Information from the CCAR is used to calculate a recommended level of care for each client. The CCAR's psychometric properties have been assessed in Colorado and several other states. In these places, as well as more recently in Ontario (Durbin, Cochrane, Goering & Macfarlane, 2001; Schwartz, 1999), adequate reliability and validity have been demonstrated.

Support/Service Use and Needs Profile
The Support/Service Use and Needs Profile deals with information about client service needs and current use. Generally, program staff are asked to describe the client's use of service in two broad categories: residential and case management-based treatment. Staff also assess the client's use and need for 19 specific supports and services, encompassing treatment, rehabilitation and basic supports. These data were used to determine the client's current level of care at the last three sites (Whitby, Penetanguishene, and CAMH) and to specifically identify areas of unmet need. As noted above, the profile is slightly different for HSC residents and outpatient clients than it is for inpatient clients.

The support/service use and needs profile and the CCAR assessments are used to identify the support and service needs of individuals receiving services from the mental health system across Ontario's Provincial Psychiatric Hospitals. This should not be confused with those that are typical of an individualized service planning process. The goal of this project is to facilitate a discussion of subgroup needs from a service planning perspective. It is based on a brief "snapshot" of a several very large cohorts of individuals at one point in time, whereas an assessment of individual clinical needs would require input from a variety of sources, including the client, and would be conducted regularly over time.

It should be noted that the assessment (needs profile and basic demographic information) has gone through minor modifications over 4 years of its use in Ontario so that data obtained at each site are slightly different. Taking minor differences into account with the goal of preserving as much information as possible across sites, a merged data set across sites was created in the fall of 2002.

Level of Care Assessment
A level of care template is a systematic approach for linking the individual's need to a particular level of care. The template is intended to support needs-based service planning for groups of individuals. This does not replace individual level decision making, which should (as noted above) be made collaboratively, including individuals and families and considering unique circumstances and preferences. A level of care template also allows the opportunity to define a response to needs based on best practices rather than on current service availability or historic patterns of service use.

Levels of Care Description

General descriptions of the type of individual who can be served at each level are provided below:

Level 1: At this level, individuals are capable of self-management; may attend an outpatient clinic or see a family physician monthly; and may intermittently use a range of core community services and supports.

Level 2: Individuals in this level need individualized support about once a week for assistance in identifying needs and accessing core community supports and services. Their psychiatric care could be provided through regular

contact with a psychiatrist or mental health nurse in an outpatient clinic, through community based mental health service or psychiatrist's office.

Level 3: Persons in this level are capable of living in the community if they receive intensive, integrated community treatment, rehabilitation and support. They may need daily visits and the availability of 24 hour, 7 days per week clinical services and individual support. This wrap-around service requires lower caseload ratios and is usually associated with a multi-disciplinary team approach such as provided by Intensive Case Management and Assertive Community Treatment (ACT) teams.

Level 4: Persons in Level 4 need residential treatment with a strong rehabilitation component. These individuals have high needs for safety maintenance, individual support and clinical services. They may be elderly individuals who need daily nursing care and a safe, supportive environment in addition to mental health care. This level is also appropriate for persons whose behaviours make it difficult for them to live independently and who may at times need a secure environment.

Level 5: Individuals in this level need care from a multidisciplinary team with high levels of expertise and support and the capacity to do comprehensive assessment in a secure setting. Individuals in this level have complex, difficult to treat psychiatric conditions that may be complicated by co-existing disorders (e.g., medical illness and developmental disabilities).

Level 4 care uses security or management risk, severe symptoms and suicidal or violent behaviour as the admission criteria to a less secure setting. Level 4 settings are securable and able to handle management problems other than suicidal or violent behaviour. These settings will need to be created either through enhancing existing programs or developing new ones. A description of these settings can be found in a recent report by the HSRCU that identifies best practices in regard to Level 4-type programs (Trainor & Ilves, 1999). This level could include nursing and long-term care homes if given considerably enhanced capacity to deal with individuals who have mental health problems. It might also include smaller, residential settings with staff on site and the capacity to provide security and rehabilitation.

The *Making it Happen* (MOHLTC, 1999) documents refer to the Level 4 component of the housing continuum as "residential treatment facilities" (RTF) and categorizes it as "specialized" mental health service along with ACT teams, mobile outreach teams, specialized inpatient and outpatient services, and regional forensic services. Two types of RTFs are outlined in *Making it Happen*. The first type is a secure, lockable facility of up to 16 residents. Appropriate clients are described as not needing nursing care, but requiring treatment and rehabilitation and as having behavioural problems. The second type assists residents in developing the requisite skills to move to independent housing. Residents are expected to be involved in meaningful activities outside of the setting during the day and to participate in the maintenance of the residence. They may also be clients of an assertive community treatment (ACT) team. It should be noted, for purposes of this report, that Level 4 refers to the first type rather than the second type of RTF described in *Making it Happen*.

Linking Level of Need to Level of Care
The following six CCAR domains are important indicators of a person's need for structure, individual support and clinical services:

Safety maintenance: assesses need for special support or a secure setting due to risk due to medication-related behaviours, wandering, suicide, etc.

Overall Problem Severity: reflects functioning in 21 areas, including psychiatric symptoms, thought processes, cognitive problems, aggressiveness, legal issues, family and interpersonal problems, role performance, and medical and substance co-morbidities, etc.

Self-Care/Basic Needs: assesses a person's ability to care for himself/herself and provide for his/her own needs (food, clothing, housing, transportation).

Overall Strengths/Resources: assesses the person's strengths and resources that contribute to well-being and potentially influence recovery. These include economic resources such as employment, housing, financial assets, education and skills, person resources including parents, siblings and friends, and personal strengths such as likeableness, appearance, confidence, judgement.

Suicide/Danger to Self: assesses presence and extent of self-destructiveness, and takes into account suicide ideation, planning and attempts; self-injury, and reckless self-endangerment.

Violence/Danger to Others: assesses conduct or actions that pose a threat to the person's family members or others.

Client groups associated with each level of care were defined using a staged approach. Persons who scored high on safety maintenance and overall problem severity risk (need for High Structure) were categorized in Levels 4 or 5. Those whose maintenance needs were rated as "no" or "low" were placed in Levels 1 or 2. The middle group was assigned to Levels 2 or 3. Within each of these three paths, protective effects such as individual strengths and resources or exacerbating effects of poor self care skills or higher suicide/risk determined final assignments. For instance, the presence of resources/strengths could lower the level of care placement (i.e., shift an individual from Level 3 to Level 2) but was irrelevant to those in the high severity group. Consistent with key principles of mental health reform, severity thresholds for assignment to inpatient care were very high and narrow, as were criteria for assignment to residential care. Several paths led to Level 3 assignment, increasing its use over more restrictive settings.

RESULTS

Prevalence of Dual Diagnosis in the Provincial Psychiatric Hospitals

Operational Definition of Dual Diagnosis

The first issue to consider in carrying out CAP analyses was how to identify the patients with a dual diagnosis. Two sections of the CCAR collect information on client status regarding the presence of a *developmental disability* or *mental retardation*. The first section is the disability section of the CCAR, where the rater checks whether the individual has any disabilities (hearing, vision, physical, and developmental). The second section is the diagnostic section, where the rater selects the various psychiatric diagnoses that the person has. Unlike other psychiatric diagnoses, the diagnosis of *mental retardation* is both a disability (*developmental disability*) and a psychiatric diagnosis. Findings on dual diagnosis in the individual hospital CAP reports are based on those individuals with a diagnosis of *mental retardation* or *developmental handicap* as noted in the diagnosis section of the CCAR. This was problematic because in the first 6 CAP reports, raters were only able to list a primary and secondary diagnosis (and in the first CAP report, raters could only list a primary diagnosis). Using this selection procedure (diagnosis alone) in the first six sites, 7.4% of patients were considered to have a dual diagnosis. In contrast, using the *developmental disability* criterion, 12.3% of patients were considered to have a dual diagnosis (1.6 times as many people). Thus, CAP reports for the first six hospitals reported the prevalence of dual diagnosis as being much lower than is being suggested here (See Table 1).

The final 3 CAP sites had slightly modified questionnaires to address this issue of underdiagnosis. In the diagnostic section of these questionnaires, raters could list unlimited psychiatric diagnoses including *mental retardation* and *pervasive developmental disorder* as opposed to just one or two diagnoses. It was hypothesized that agreement between *developmental disability* in the disability section and *mental retardation* or *pervasive developmental disorder* in the diagnosis section would be higher in these hospitals because there were no limits on the number of diagnoses that could be provided. This hypothesis was supported. Similar to the first 6 hospitals, the rate of dual diagnosis using the *developmental disability* criterion was 12.1%. The rate of dual diagnosis using the psychiatric diagnosis criterion (diagnosis of *mental retardation* or *pervasive developmental disorder*) was 12.0% (compared to 7.4% in the first six sites).

It was decided therefore that patients with a dual diagnosis would be operationally defined as those individuals with either a diagnosis of *mental retardation/developmental handicap* in the diagnostic section of the CCAR or a *developmental disability* in the disability section of the CCAR. It is possible that not all individuals with either a diagnosis of *mental retardation* or *developmental disability* truly meet criteria for a dual diagnosis. However, given the purpose of this study, it was thought that it would be better to be over rather than under-inclusive.

Table 1

Number of People with a Dual Diagnosis

PPH	Sample Size	Diagnosis of MR (or PDD) %	Developmental Disability %	Combined % (N)
Brockville	1037	15.7	19.9	20.2 (209)
Kingston	820	9.3	13.7	14.4 (118)
Hamilton	1312	6.4	9.9	10.1 (132)
London	2999	6.5	12.9	13.9 (416)
North Bay	1196	10.7	18.1	19.5 (233)
Lakehead	1601	0.6	3.2	3.2 (51)
Whitby[1]	1329	12.4	12.3	13.4 (187)
Penetang[1]	501	33.1	35.1	36.3 (185)
CAMH[1]	2166	6.2	6.7	8.4 (183)
Total	12960	8.4	12.2	13.2 (1714)

[1] For these sites, raters were able to list an unlimited number of diagnoses

Dual Diagnosis Prevalence

Overall, 1714 of 12960 PPH patients were determined to have a dual diagnosis (13.1%) using the criteria outlined above. Table 1 presents number of patients with a dual diagnosis according to diagnostic criteria and disability criteria, by hospital. Table 2 presents rates of dual diagnosis by site and patient status (inpatient, outpatient, HSC). Of the 1714 patients, 416 individuals are inpatients (18.8% of total inpatients), 1036 individuals are outpatients (11.2% of total outpatients), and 262 individuals are living in HSCs (17.8% of HSC residents). Individuals with a dual diagnosis are present at all 9 sites, with the fewest individuals coming from Thunder Bay (51 individuals, 3% of TB hospital patients). Penetanguishene has the largest proportion of dual diagnosis patients (36%), followed by Brockville and North Bay (20% and 19% respectively). Compared to other disabilities (e.g., deaf, blind, non-ambulatory) having a developmental disability is the most common type of disability reported, affecting 1 in 8 PPH patients (See Table 3).

Table 2

Rates of Dual Diagnosis by Hospital and Program Status

Site	Inpatient %	Outpatient %	HSC %
Brockville	23.1	17.8	30.5
Kingston	18.3	9.7	61.1
Hamilton	11.6	9.0	17.4
London	19.7	12.5	14.7
North Bay	29.0	16.3	19.8
Lakehead	7.9	2.7	-----
Whitby	11.5	15.1	12.8
Penetang	26.5	49.3	27.3
CAMH	16.7	6.8	7.0
Total (N)	18.8 (416)	11.2 (1036)	17.8 (263)

Table 3

Percentage of PPH Patients With Disabilities

Disability	%
Deaf	2.7
Blind	2.1
Speech	5.9
Non-Ambulatory	5.6
Developmental Disability (DD)	12.2

With regard to level of cognitive functioning, this information is only available for patients from the final 3 CAP sites (Penetang, Whitby and Toronto), 32% of the total dual diagnosis sample (See Table 4). The majority of individuals have borderline ability to mild disabilities (67%), followed by moderate disability (27%). Very few individuals are in the severe to profound range of developmental disability (6%). Distributions are fairly similar in inpatient, outpatient, and HSC settings with the exception that a greater proportion of outpatients have borderline to mild disabilities (71%) than inpatients and people in HSCs (62% and 61% respectively).

Table 4

Cognitive Functioning Level by Status

	Inpatient %	Outpatient %	HSC %	Total %
Borderline / Mild	62.1	71.2	61.0	67.0
Moderate	31.6	23.3	32.0	27.0
Severe / Profound	6.3	5.4	7.0	6.0

Patients with a Dual Diagnosis

Demographics

Patients with a dual diagnosis are predominantly single with limited education (or special education background). The average age of the dual diagnosis patient is 47 years old. The majority of patients are between the ages of 25 and 55 (58%) with fewer than 20% of patients under 25 or over 70. Fifty-five percent of these patients are male. Legal problems are reported in 12% of patients with a dual diagnosis. For detailed breakdown of demographics by hospital site and by status, see Appendices C and D respectively.

Psychiatric Diagnoses and Problematic Symptoms of Patients with a Dual Diagnosis

The most common diagnosis in these patients is psychosis (52%), followed by mood disorder (20%) and personality disorder (13%). The most problematic symptoms reported in the CCAR are attention problems, aggression, resistive behaviour, cognitive problems, interpersonal difficulties and problems with self care (See Table 6). These patients also have limited personal, social and economic resources available to them (See Table 7). Forty nine percent of patients have medical concerns and 91.5% of patients are taking psychotropic medication. For a breakdown of psychiatric diagnosis by status, see Table 5 and for a breakdown of symptom severity by status and strengths and resources by status, see Tables 6 and 7 respectively.

Table 5

Psychiatric Diagnosis and Medication by Status

	Inpatient %	Outpatient %	HSC %	Total %
Mood	15.2	24.0	7.3	19.4
Anxiety	3.6	8.4	5.4	6.8
Psychotic	46.0	53.1	57.5	52.0
Personality	15.6	11.8	11.6	12.7
Substance Use	6.0	5.1	0.0	4.6
Organic	12.3	3.6	13.9	7.2
Medical Diagnosis	62.2	42.6	48.2	48.6
On psychotropic medication	91.5	93.2	83.1	91.5

Table 6

Symptom Severity for Patients by Status (mean scores*)

	Inpatient	Outpatient	HSC	Total
Anxiety	4.28	3.79	3.98	3.94
Attention	5.56	4.48	4.45	4.74
Hyperaffect	3.92	2.71	3.30	3.10
Suicide	3.24	2.18	1.95	2.4
Aggression	5.03	3.13	3.52	3.65
Antisocial	4.01	2.6	2.39	2.92
Legal	2.24	1.53	1.12	1.65
Resistive	5.06	3.67	3.47	3.99
Violence	4.43	2.44	2.16	2.90
Self Care	6.81	4.96	6.85	5.69
Thought Processes	4.93	3.76	4.03	4.08
Cognitive Problems	5.64	4.36	4.15	4.65
Interpersonal	5.92	4.99	3.76	5.04
Medical Illness	3.37	3.13	3.09	3.18
Role Performance	6.92	5.23	7.28	5.95
Substance Abuse	1.74	1.61	1.08	1.56

*these scores are based on likert scale of 1 to 9 with 9 being most severe

Table 7
Strengths and Resources for Patients by Status
(mean scores*)

	Inpatient	Outpatient	HSC	Total
Economic	1.08	3.48	2.79	2.75
Education	0.58	1.37	0.93	1.09
Person	1.68	3.26	2.10	2.66
Personal Strengths	1.29	2.40	2.38	2.12

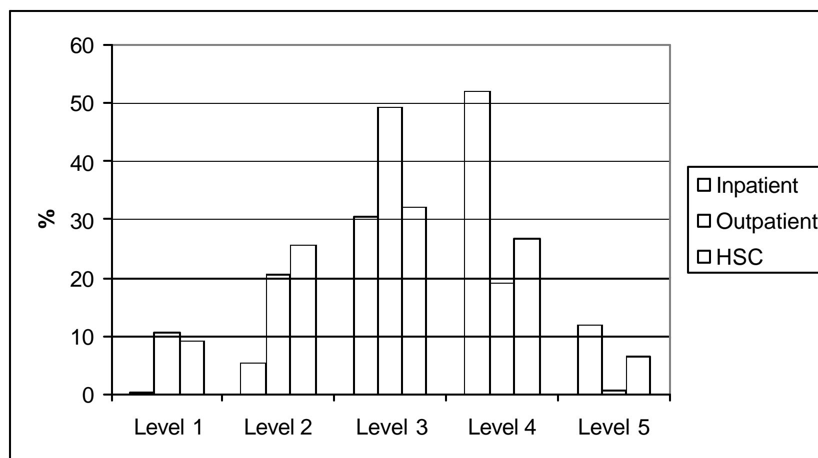
*these scores are based on likert scale of 1 to 9 with 9 being the highest level of strengths and resources

Service and Support Needs of Patients with a Dual Diagnosis

One third of dual diagnosis patients require very intensive supports and services (Levels 4 and 5) and 25% of patients can manage with occasional contact (Level 1) or case management (Level 2). However, only 12% of inpatients with dual diagnosis were determined to require the inpatient hospital care they are currently receiving. If the intensive services required could be made available to them, most inpatients would be able to succeed in the community based settings as opposed to in hospital based care (See Figure 1).

For a subsample (32%) of patients with a dual diagnosis (those in the last 3 sites), current services were contrasted with recommended level of care to determine how well matched current services were with their needs. Fifteen percent of patients are receiving services that are at least two levels below what they require, 33% of patients are receiving services 1 level below what is recommended and 16% of patients are receiving a higher level of support than is recommended. Only 36% of these patients are receiving services matched to their current level of need.

Figure 1
Recommended Level of Care by Status



Staff also rated the needs of patients with a dual diagnosis in 18 program areas (Table 8). As evident from Table 8, need for services and supports is very high in most areas (above 50%) for these clients, with the exception of income support (13%), correctional services (13%), substance abuse (14%) and educational support (36%).

Table 8
Rate of Need (%) for Services and Supports for Patients With and Without a Dual Diagnosis

Domain	DD %	Non DD %
Med manage*	95.7	93
Physical Health Care*	94.2	88
Assessment / Diagnosis	92.5	91.3
Social / Recreational*	97.3	83
Meaningful Activity*	90.8	77.7
ADL skills*	87.4	60
Self Care*	84.5	49
Income Support Need*	12.7	65.1
Housing Support*	79	55
Rights / Protection*	78	56
Crisis Intervention*	74.7	64
Developmental Disability*	54.1	9
Family Support*	74.5	69.8
Vocational*	54.6	46.4
Educational	36.3	35.8
Correctional Services	12.6	10.7
Dental	86.1	84.2
Substance Abuse*	13.6	23.4
Psychotherapy*	73.1	83.1

Comparison of Men and Women with a Dual Diagnosis

As noted above, equal numbers of men and women with a dual diagnosis are served by the PPH system and they are just ask likely to receive a comorbid medical diagnosis. There are some important differences worth noting, however. Women with a dual diagnosis have higher rates of psychotic disorder and organic disorder, while men have higher rates of substance abuse and personality disorder. Women are more likely to have experienced a loss or grief prior to admission, they have higher rates of eating disorders and cultural issues, as well as past suicide attempts, and they are more likely to have been sexually or physically abused in the past. Men, in contrast, are more likely to have a history of unstable employment, and to have either been involved in property destruction or fire-setting in the past. (See Table 9.)

Table 9
Comparison of Men and Women with a Dual Diagnosis on Diagnoses and Other Clinical Concerns

		Male %	Female %
Psychiatric Diagnosis	Mood	16.3	18.2
	Anxiety	6.7	7.8
	Psychotic*	43.4	57.6
	Personality*	16.3	7.4
	Substance Abuse*	4.9	0.2
	Organic*	4.0	8.9
	Medical Diagnosis	47.6	49.0
Other Clinical Concerns	Loss / Grief*	7.5	17.1
	Eating disorder*	1.8	8.9
	Wetting / Soiling	11.9	15.8
	Fire Setting*	7.0	2.5
	Cultural Issues*	2.4	9.8
	Language Issues	10.4	9.1
	Sexual Abuse*	9.3	23.9
	Physical Abuse*	15.3	23.6
	Neglect	12.1	15.1
	Unstable Employment*	23.3	15.6
	Suicide Attempt*	5.2	15.2

*significant difference, with correction for multiple comparisons applied

Comparison of Older (Over 65) and Younger Dual Diagnosis Patients

Individuals older than 65 years make up 11.2% of the dual diagnosis population served by the PPH system. They have lower rates of mood disorder and psychotic disorder but higher rates of organic disorders than younger patients. They did not differ from younger patients in terms of having a comorbid medical diagnosis. Older individuals are less likely to have a documented experience of loss, or to have cultural concerns, and are less likely to have documented past sexually or physically abusive experiences or to have attempted suicide in the past. They have significantly more problems, however, in terms of wetting or soiling themselves and are more likely to have documented past experiences of neglect than younger patients. (See Table 10.)

Table 10
Comparison of Younger and Older Patients with a Dual Diagnosis on Diagnoses and Other Clinical Concerns

		< 65	>65
Psychiatric Diagnosis	Mood *	18.4	10.3
	Anxiety	7.6	4.0
	Psychotic *	51.1	34.1
	Personality	13.4	10.4
	Substance Abuse	3.0	1.6
	Organic *	5.1	12.8
	Medical Diagnosis	47.6	52.3
Other Clinical Concerns	Loss / Grief *	12.9	0.9
	Eating disorder	5.1	6.5
	Wetting / Soiling *	12.6	22.9
	Fire Setting	5.6	1.7
	Cultural Issues *	6.1	0.0
	Language Issues	9.5	4.3
	Sexual Abuse *	16.6	5.6
	Physical Abuse *	19.5	11.1
	Neglect *	12.3	20.0
	Unstable Employment	19.7	22.2
	Suicide Attempt *	10.4	1.6

*significant difference, with correction for multiple comparisons applied

Dual diagnosis patient characteristics by program status

Inpatients with a Dual Diagnosis

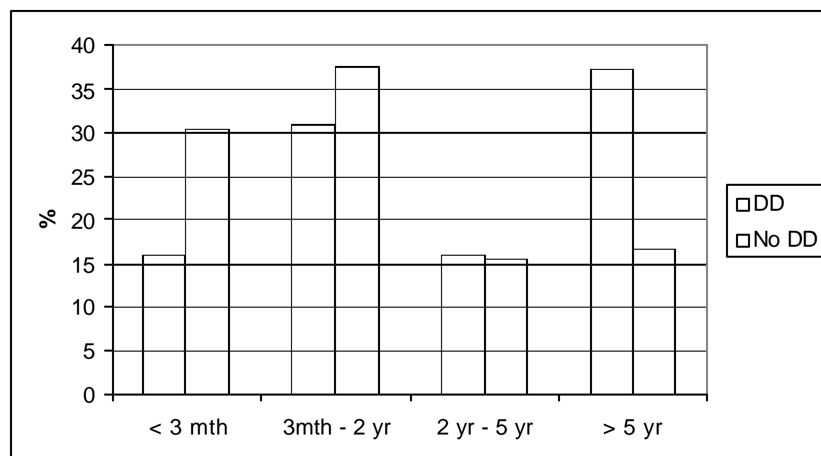
Seventy percent of inpatients with a dual diagnosis are male. They range in age from 17 to 98 with a mean age of 47. Fifty-eight percent of these inpatients have a diagnosis of mental retardation noted on their form. The most common psychiatric diagnosis is psychotic disorder (46%), followed by personality disorder (16%) and mood disorder (15%). The mean number of days as an inpatient from admission to time of assessment is 2398 days (6.57 years). Twenty two percent of inpatients have legal issues and 26% of inpatients are in specialized dual diagnosis inpatient units.

Thirty seven percent of inpatients with a dual diagnosis have been in hospital for at least 5 years (see Figure 2), ranging in age from 23 to 98 with a mean age of 53. They are fairly similar to shorter stay inpatients. Sixty-eight percent of these individuals are male. Only 54% of them have a primary or secondary diagnosis of mental retardation. The most common diagnosis for these individuals is psychotic disorder (50%). All other diagnoses were noted in fewer than 15% of the long term inpatients. Rates of mood disorder are lower (8%) than for other shorter term inpatients. Ten percent of these individuals were noted to have legal issues but 70% of these individuals were noted to have medical problems in addition to their psychiatric impairment.

As was reported for the general CAP Population, dual diagnosis inpatients were rated as having more severe symptoms (see Table 6) and fewer resources (see Table 7) than

outpatients and DD individuals in HSC programs. Proportionately more inpatients have higher levels of care recommended than outpatients and individuals in HSCs.

Figure 2
Length of Stay of Inpatients With and Without a Dual Diagnosis



Outpatients with a Dual Diagnosis
Outpatients with a dual diagnosis are evenly divided between men and women. Sixty-five percent of outpatients have a primary or secondary diagnosis of mental retardation. Thirty percent of these individuals live in group homes, 28% live in private homes, 22% live in nursing homes, and 17% live in boarding homes. The majority of outpatients live with non-family. Fourteen percent of them live alone, 9% live with parents, 11% live with a spouse, and 5% live with other family members. The most common diagnosis is psychotic disorder (53%), followed by mood disorder (25%), and personality disorder (12%). Twenty-one percent of outpatients are receiving services from a specialized dual diagnosis outpatient program. Eleven percent of outpatients have legal issues. Ninety-three percent are taking psychotropic medication and had 43% a medical diagnosis.

Individuals Residing in Homes for Special Care with a Dual Diagnosis
These individuals are evenly divided between men and women. Eighty-two percent of them have a formal diagnosis of mental retardation noted on their form. These individuals have a mean age of 54, which is significantly older than the mean age of inpatients and outpatients with a dual diagnosis but consistent with the age of HSC residents without a dual diagnosis. The most common diagnosis is psychotic disorder (58%), followed by organic disorder (14%) and personality disorder (12%). No individuals from HSCs are receiving specialized dual diagnosis services. The majority of these individuals are taking medication and few of them (1.6%) had legal issues. Given the variability in HSCs with regard to whether they serve people with a dual diagnosis, and given that only a subsample of individuals from the HSCs were surveyed, these findings should be interpreted cautiously.

Individuals with a Dual Diagnosis and Legal Issues: Patient Characteristics and Needs

Twelve percent of patients with a dual diagnosis were classified as having legal issues. Sixty percent of these individuals have a diagnosis of mental retardation recorded in their charts as a primary or secondary diagnosis. Of those patients where information on functioning level was available (last 3 CAP sites), 61% of these individuals are functioning in the borderline to mild range of intellectual functioning. Eighty-six percent of patients with legal issues and a dual diagnosis are male, 55% of them are outpatients and 43% are inpatients (only 2% are residing in HSCs). The most common diagnosis in these individuals is psychotic disorder (48%), followed by personality disorder (39%) and substance abuse (19%). Rates of psychotic disorder are similar to individuals without legal issues and a dual diagnosis but rates of personality disorder (39% versus 10%) and substance abuse are notably higher (19% versus 3%). The least common diagnosis is anxiety disorder in 3% of forensic patients.

Individuals with a dual diagnosis and forensic issues are more likely to require intensive case management (e.g., ACT team support) than other individuals with a dual diagnosis (60% versus 38%).

Specialized Dual Diagnosis Programs: Patient Characteristics and Needs

Nineteen percent of patients with a dual diagnosis were identified as being part of a specialized dual diagnosis program. These programs existed in 7 of the 9 sites. Five hospitals have inpatient programs, and 4 sites have outpatient or consultation programs. (For further details on these specialized programs, see Appendix E.) Overall, these patients are younger (39 vs. 48), more likely to be male (70% vs. 50%), and more likely to be violent or aggressive. They are less likely than other dual diagnosis patients to be diagnosed as having psychotic disorder but more likely to receive a diagnosis of mood or anxiety disorder. (See Tables 11 & 12).

Patients being served by specialized programs were also rated as having a higher level of recommended care than those served in generic programs. In addition (for the last 3 sites), they were rated as being more poorly matched with regard to current services versus need than patients not served by specialized programs. This would suggest that the few existing specialized programs could not meet the severe needs of this specialized group with their current resources.

Table 11

Comparison of Dual Diagnosis Patients in Specialized Dual Diagnosis Patients to Those in Generic Programs on Demographics

		DD Program %	Non DD Program %	Total %
Sex *	Male	70.7	51.7	55.3
	Female	29.3	48.3	44.7
Age *	Mean age	39.22	48.86	---
Marital Status *	Single (never married)	94.4	73.5	77.5
	Married / Common Law	1.2	10.0	8.4
	Separated	0.3	3.5	2.9
	Divorced	3.7	8.5	7.6
	Widowed	0.3	4.5	3.7
Education *	Elementary school or less	67.4	48.1	51.7
	Some high school	17.4	38.4	34.4
	Completed high school	1.2	2.8	2.5
	Some post secondary	0.3	3.5	2.9
	Completed post secondary	0.0	0.6	0.5
	Don't know	13.7	6.6	8.0
Legal Status *	One or more legal problems	8.0	13.0	12.1
Usual Living Arrangement *	Lives with parent(s)	5.0	7.4	6.9
	Lives with spouse / partner	1.3	9.2	7.7
	Lives with other relative	0.6	3.7	3.1
	Lives alone	1.9	12.8	10.7
	Lives with unrelated person	84.4	62.8	66.9
	Inpatient	6.9	4.2	4.7
Employment Status *	Not working	74.9	89.2	86.6
	Working	10.2	3.8	5.0
	Other	14.9	7.0	8.5

*significant difference, with correction for multiple comparisons applied

Table 12

Comparison of Dual Diagnosis Patients in Specialized Dual Diagnosis Programs to Those in Generic Programs on Diagnoses

		DD Program %	Non DD Program %
Psychiatric Diagnosis	Mood *	32.5	16.3
	Anxiety *	14.5	4.9
	Psychotic *	24.7	58.4
	Personality	10.2	13.3
	Substance Abuse	1.9	5.2
	Organic	5.0	7.7
	Medical Diagnosis	41.1	50.4

*significant difference, with correction for multiple comparisons applied

Comparison of patients with a dual diagnosis to other patients in the PPH system

Demographic differences

Patients with a dual diagnosis are different than other patients in more ways than they are similar. They are slightly younger overall (mean age of 46 versus 48), more likely to be single and have less education. They differ in terms of their usual living arrangement (less likely to live alone or with spouse) and their usual place of residence (less likely to live in a private home and more likely to be in either a boarding house or a group home). As well, they are more likely to be unemployed (see Table 13). A smaller proportion of individuals with a dual diagnosis are outpatients when compared to those without a dual diagnosis (60% versus 73%).

Table 13

Demographics for Patients With and Without a Dual Diagnosis

		DD %	Non DD %
Sex	Male	55.3	52.8
	Female	44.7	47.2
Age *	Mean age	46.7	48.3
	Standard Deviation	14.8	16.1
	16-24	4.3	4.2
	25-39	29.0	26.3
	40-54	34.7	37.2
	55-69	22.8	18.8
	70+	9.1	13.5
Marital Status *	Single (never married)	77.5	51.8
	Married / Common Law	8.4	21.4
	Separated	2.9	5.4
	Divorced	7.6	14.4
	Widowed	3.7	7.0
Education *	Elementary school or less	51.7	12.4
	Some high school	34.4	34.6
	Completed high school	2.5	20.1
	Some post secondary	2.9	15.1
	Completed post secondary	0.5	13.8
	Don't know	8.0	4.1
Legal	No legal problems	87.9	87.5
Usual Living Arrangement *	Lives with parent(s)	6.9	10.1
	Lives with spouse / partner	7.7	21.5
	Lives with other relative	3.0	4.4
	Lives alone	10.8	27.6
	Lives with unrelated person	66.8	33.9
	Inpatient	4.7	2.5
Usual Place of Residence *	Rooming / Boarding house	16.8	8.4
	Shelter / Hotel	4.8	3.5
	On the Street	0.1	0.5
	Coop / Group home (not HSC)	23.3	7.7
	Nursing/ Long term care facility	14.0	18.1
	Private home / Apartment	20.5	47.8
	Approved home	0.3	1.2
	Hospital	12.4	6.5
	HSC	7.8	6.4
Employment Status *	Not working	86.6	79.2
	Working	4.2	17.0
	Other	25.4	3.8
Status *	Inpatient	24.3	16.0
	Outpatient	60.4	73.2
	HSC	15.3	10.8

*significant difference, with correction for multiple comparisons applied

Differences in Diagnosis and Symptom Severity

Patients with a dual diagnosis are just as likely as other patients to receive a diagnosis of psychotic disorder, personality disorder, or organic disorder but are less likely to receive a diagnosis of mood or anxiety disorder, or substance abuse. Inpatients with a dual diagnosis tend to have longer admissions than other inpatients, with 37% having inpatient stays greater than 5 years (compared to 17% of non dual diagnosis patients; See Figure 2). More dual diagnosis patients have a history of physical or sexual abuse or neglect, language issues, fire setting behaviour and problems with wetting and soiling but had fewer problems with suicidality, unstable employment, and family substance abuse prior to admission. (See Table 14.)

Table 14

Diagnoses and Clinical Issues for Patients With and Without a Dual Diagnosis

		DD %	Non DD %
Diagnosis / Medication	Mood*	19.4	35.3
	Anxiety*	6.7	10.3
	Schizophrenia / Psychotic	52.0	51.3
	Personality	12.7	11.8
	Substance Use*	4.6	11.6
	Organic	7.2	7.0
	On Psychotropic Medication	91.4	90.0
Other Clinical Concerns	Loss / Grief*	10.8	20.5
	Eating disorder	7.3	6.1
	Wetting / Soiling*	15.3	7.4
	Fire Setting*	8.1	3.1
	Cultural Issues*	6.8	5.5
	Language Issues*	9.2	4.0
	Sexual Abuse*	17.1	13.8
	Physical Abuse*	20.3	17.1
	Neglect*	15.3	10.9
	Unstable Employment*	23.7	31.4
	Suicide Attempt*	15.3	22.0

*significant difference, with correction for multiple comparisons applied

In terms of symptoms as measured by CCAR ratings, dual diagnosis patients were assigned more severe symptom ratings for most symptoms when compared to patients without a dual diagnosis (see Table 15). They also have fewer resources than the other patients (see Table 16).

Table 15
Symptom Severity for Patients With and Without a Dual Diagnosis (mean scores)

	DD	Non DD
Anxiety	3.95	3.64
Attention	4.75	3.7
Hyperactivity	3.1	2.43
Suicide	2.41	2.06
Aggression	3.66	2.47
Antisocial	2.93	2.05
Legal	1.65	1.54
Resistive	3.99	3.48
Violence	2.9	1.93
Self Care	5.69	3.62
Thought Processes	4.09	3.59
Cognitive Problems	4.66	3.39
Interpersonal	5.06	4.02
Medical Illness	3.18	2.71
Role Performance	5.95	4.58
Substance Abuse	1.56	2.04

*these scores are based on likert scale of 1 to 9 with 9 being most severe

Table 16
Strengths and Resources for Patients With and Without a Dual Diagnosis (mean scores)

	DD	Non DD
Economic	2.75	3.51
Education	1.09	3.29
Person	2.65	3.51
Personal Strengths	2.11	3.56

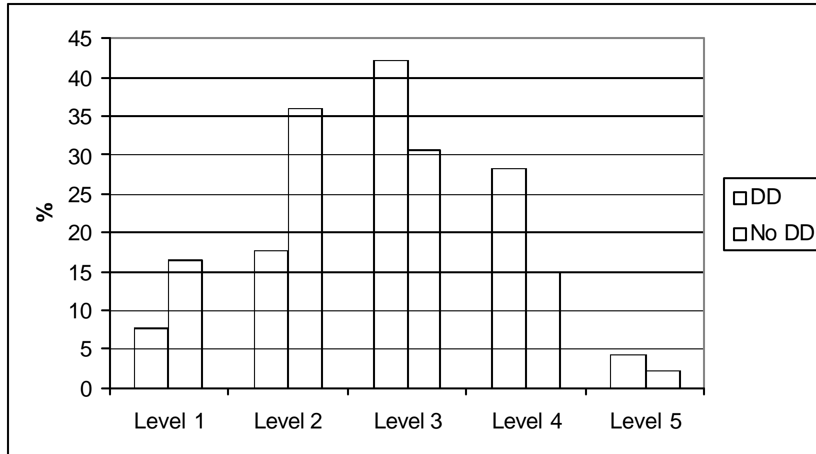
*these scores are based on likert scale of 1 to 9 with 9 being the highest level of strengths and resources

Comparison of Service and Support Needs of Patients with and without a Dual Diagnosis

Based on information provided above with regard to symptom severity, strengths and resources, it is not surprising that dual diagnosis patients have higher recommended levels of care than other patients (3.0 vs. 2.5; see Table 18). A larger proportion of them require level 4 and 5 care than the average patient (32% vs. 22%) and significantly fewer of them could manage with less intensive (level 1 or 2) support (25% versus 52%). (See Figure 3.) This is very relevant in terms of mental health reform because typical outpatient services, appropriate for more than half of PPH patients, would not be

appropriate for the majority of dual diagnosis patients. Secure residential treatment or intensive case management such as ACT teams are more applicable to these individuals.

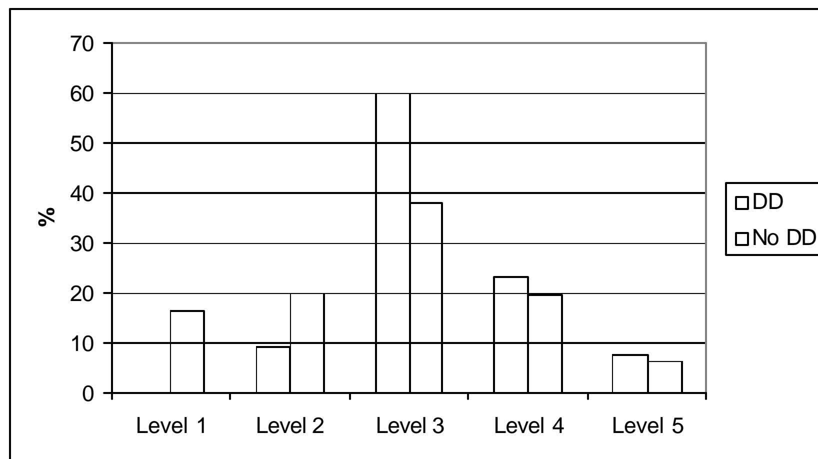
Figure 3
Recommended Level of Care for Patients With and Without a Dual Diagnosis



Comparison of Patients with Legal Issues with and without a Dual Diagnosis
A similar proportion of patients with and without a dual diagnosis have legal issues (12%), primarily males in both groups (86% versus 80%). Just over half of the individuals with legal problems are outpatients, regardless of diagnosis (55%). Although legal problems were as common in patients with a dual diagnosis as those without, the type of legal problem is different. Individuals with a dual diagnosis are less likely to be classified as Not Criminally Responsible (22% versus 43%) but are more likely to be considered Unfit to Stand Trial (12% versus 3.5%). With regard to psychiatric diagnosis, rates of personality disorder re significantly higher for those with a dual diagnosis (39% versus 20%) but rates of mood disorder (13% versus 22%) and psychotic disorder (48% versus 59%) are significantly lower. Interestingly, rates of substance abuse, very different when comparing individuals without legal issues with and without and dual diagnosis, are not very different when comparing individuals with legal concerns (19% versus 24%).

With regard to support and service needs, forensic patients with a dual diagnosis are rated as requiring a higher level of care than the other forensic patients (See Table 21). Nine percent of forensic patients with a dual diagnosis can manage with case management or outpatient care compared to 35% of non-dually diagnosed forensic patients and 60% of forensic patients with a dual diagnosis require level 3 care compared with 38% of forensic patients without a dual diagnosis. However, level 4 and level 5 care are recommended for similar proportions of forensic patients with and without a dual diagnosis (See Figure 4).

Figure 4
Recommended Level of Care for Forensic Patients With and Without a Dual Diagnosis

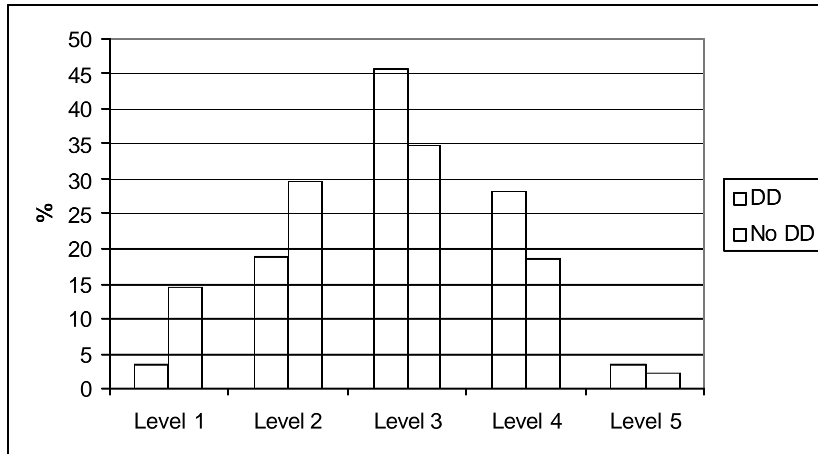


Comparison of Patients with Psychotic Disorders with and without a Dual Diagnosis
Half of the individuals served by the provincial psychiatric hospitals have a primary or secondary diagnosis of psychotic disorder. Because psychosis is the most common primary or secondary diagnosis in the general psychiatric hospital population as well as in those with a dual diagnosis, these individuals are examined in closer detail. Of those patients with a psychotic disorder diagnosis, nearly 1 in 7 also has a dual diagnosis (13.3%), evenly split between men and women. (This is in contrast to 66% of patients with a psychotic disorder and no developmental disability being male). A psychotic disorder diagnosis is as common in patients with a developmental disability as in patients without a developmental disability. With regard to symptom severity, patients with a dual diagnosis are rated as more severe on all symptoms with the exception of substance abuse, which was rated as higher for those without a dual diagnosis. In addition, patients with a dual diagnosis were rated as having fewer resources than the other patients with psychotic disorder.

With regard to service and support needs, patients with a psychotic disorder diagnosis have the highest needs of all diagnoses. However, needs of patients with a dual diagnosis of psychotic disorder and developmental disability were consistently rated as higher than the needs of patients without developmental disability. The same low proportion of patients in both groups require level 5 care (inpatient treatment; 3.5% vs 2.3%). However, fewer individuals with developmental disability and psychotic disorder were rated as being able to manage with self management (3.5% versus 14.5%) or community

support (18.9% versus 29.7%). Seventy-four percent of patients with a dual diagnosis require level 3 or 4 care compared to 54% of patients with a diagnosis of psychotic disorder and no developmental disability. (See Figure 5.)

Figure 5
Recommended Level of Care for Psychotic Patients With and Without a Dual Diagnosis



DISCUSSION

The present study was conducted to determine the patient characteristics and needs of individuals being served by Ontario's Psychiatric Hospitals with a dual diagnosis. This is the first study of its kind with a tertiary care psychiatric population and has implications for services in Ontario but also contributes to research in the field of dual diagnosis more broadly.

Individuals with a dual diagnosis are an underserved population in this province's psychiatric hospitals as well as elsewhere. As many as 1 in 8 individuals served by the PPH system have a dual diagnosis, although estimates would have been lower had analyses relied on information given by primary or secondary diagnosis only. Rates of dual diagnosis are higher in the psychiatric hospital population than in Ontario's community mental health settings (13% vs. 5%; Centre for Addiction and Mental Health [CAMH], 2003), and rates are also likely higher than in acute psychiatric general hospital settings (e.g., Burge et al., 2002) although no comparable province wide survey of general psychiatry programs exists.

This information alone is important to the psychiatric hospital administrators, who may not recognize how many of their patients have a dual diagnosis, but is also relevant to administrators in the developmental disability sector or programs associated with MCFCS. Individuals receiving services by the psychiatric hospitals may not always be known to the developmental disability sector and consequently may not be included in its estimates of dual diagnosis rates, although it seems likely that these individuals are among the most severely impaired. This information is also relevant to all of the institutions responsible for educating and training present and future staff of the provincial psychiatric hospitals, as individuals with a dual diagnosis comprise a significant patient subgroup. Finally, the high rates of dual diagnosis in the province's psychiatric hospitals needs to be acknowledged by the individuals responsible for directing mental health system reform in the province. Clearly this group has unique patient characteristics but also higher needs than other individuals served by the hospitals. For mental health reform to succeed for these individuals, their needs must be taken into consideration.

Individuals with a dual diagnosis are a diverse group, demographically and diagnostically. This report clearly highlights as many within group differences as between group (those with a dual diagnosis versus those without) differences. There cannot be a simple dual diagnosis treatment plan that will meet the unique needs of each patient with a dual diagnosis. Factors to consider when determining the needs of any individual with a dual diagnosis include but are not limited to: gender, age, patient status, diagnosis, abuse history, family involvement, security/management issues, whether the individual has legal issues, whether the person is in a specialized dual diagnosis program, and where in the province the person with a dual diagnosis comes from. Needs tend to be higher for inpatients, those with legal or security management issues, and those served by specialized dual diagnosis programs, replicating findings from other studies (e.g., Lowe et al., 1995; Raitsuo et al., 1999; Xenetidis et al., 1999). Women on average have similar

needs to men with a dual diagnosis but may also have unique risk factors or other considerations (e.g., more likely to have experienced abuse, past suicide attempt) and may differ diagnostically, as has been found for women with a dual diagnosis living in the community (Lunsky, 2003). Older individuals may have additional medical complications and unique problem behaviours not as apparent for younger individuals (e.g. soiling/wetting, organic disorders), as has been reported by others (Cooper, 1999; Pary, 1993). Finally, some parts of the province may have higher needs due to a lack of alternative services available to this population. (Regional issues will be examined in greater depth in Phase II of the study.)

Findings from the CAP studies are being used to guide mental health reform. Information, therefore, on how patients with a dual diagnosis differ from the typical patient served by the provincial hospitals is particularly relevant. As indicated in the results, patients with and without a dual diagnosis differ in terms of demographics, diagnosis, length of stay (inpatients), problem severity, available resources, and service and support needs.

Other studies have discussed the high rates of psychotic disorders in individuals with a dual diagnosis (e.g., Doody, Johnstone, Sanderson, Owens & Muir, 1998; Hassiotis et al., 1999) but some have suggested that psychotic disorder can be misdiagnosed (Deb et al., 2001; Moss, Prosser & Goldberg, 1996). The high rates here (52%) are almost identical to the rates of psychotic disorder in those without a dual diagnosis (51%), suggesting that psychotic disorder is more prominent in individuals with a dual diagnosis served by a tertiary psychiatric setting. However, behaviours that appear to be "psychotic" in nature can be part of the typical behaviour repertoire of individuals with developmental disabilities and can also be observed in response to a variety of life events but not constitute a psychotic disorder (O'Dwyer, 2000). Clinical reviews of inpatients in tertiary settings have documented that not all individuals with diagnoses of psychotic disorder and developmental disability or autism have been appropriately diagnosed (Garcin, Burge, McCreary, & Heino, 2002; Palucka & Lunsky, 2002). Only further follow-up examining the diagnostic process in this population will add clarity to this issue. Such follow-up is currently underway at the CAMH Toronto site (Lunsky et al., 2003).

Mood disorders and substance abuse disorders were noted to occur less frequently in those with a dual diagnosis than those without a dual diagnosis. Are mood disorders less evident in people with dual diagnosis receiving services at the psychiatric hospitals or are they just overlooked most frequently? There are two explanations for this finding. The first explanation is that individuals with mood disorders are underserved by the PPH system because the severity of their problems is not high enough unless there is serious aggression associated with the mood disorder. These individuals therefore do not gain entry into the PPH system. The second explanation is that these individuals do gain entry into the PPH system for behaviours that are accounted for as being due to psychotic disorders when they are actually better accounted for by mood disorders (Palucka, Nyhus, & Lunsky, 2003) but are misdiagnosed. The lack of trained professionals in dual diagnosis working in the PPH system supports this second explanation (Lunsky & Bradley, 2001). Interestingly, mood disorders were more commonly diagnosed in

specialized dual diagnosis programs compared to generic programs, suggesting that specialized training may lead to better diagnostic practices.

Although the overall rates of substance abuse are particularly low in the dual diagnosis subgroup as has been reported elsewhere (e.g., Hurley et al., 2003), it should be noted that rates in the dual diagnosis subgroup with legal issues are almost identical to the rates in the non-dual diagnosis subgroup, suggesting that substance abuse problems may be particularly relevant to certain individuals. Again, this issue can only be addressed through research on the diagnostic process in the hospitals.

The most important finding in this study from a service delivery perspective is that the recommended level of care for individuals with a dual diagnosis is higher than the typical patient served by the PPH system. This finding holds true across status (inpatients, outpatients, and HSC residents), for individuals with legal issues, and for patients with the most severe symptomatology of psychotic disorder. For each of these groups and for the group of individuals with a dual diagnosis as a whole, significantly fewer individuals with a dual diagnosis can function with level 1 or level 2 support. Significantly more individuals require level 3 or 4 support; Interestingly, the percentage of individuals who require inpatient admission (level 5 support) is similar to those without a dual diagnosis even though the average length of stay is significantly longer for inpatients with a dual diagnosis than for those without. Thus, inpatient services from the PPH hospital are as essential for individuals with a dual diagnosis as for those without, but they are not *more* needed. What does appear to be needed that does not currently exist are Residential Treatment Facilitates (RTFs) and more intensive case management services such as specialized ACT teams. Such services would benefit individuals being underserved currently with level 1 or 2 support, as well as the inpatients who do not need to be in hospital. A better match of services to need is not a unique concern for individuals with a dual diagnosis but applies to all patients served by the psychiatric hospitals (CAMH, 2003). However, the extent of discrepancy between recommended and available services is greater for the dual diagnosis patient subgroup.

This study has several limitations, which should be taken into consideration when interpreting its findings. First, findings are based on a treatment population, the subgroup of individuals with a dual diagnosis being served by Ontario's tertiary level care psychiatric hospitals. Findings may not apply to individuals with a dual diagnosis who have not accessed services through the PPH system. Second, data reported here are based on secondary analyses of data developed for another reason. Issues such as accuracy of developmental disability and psychiatric diagnosis cannot be addressed using this database, but only through further research. Other concerns such as how well resourced the various hospitals are to meet the needs of patients with a dual diagnosis cannot be addressed here. It is hoped that Phase II of this study will be an opportunity to provide a context for data reported here, through speaking with the various stakeholders from across the province and looking more in depth at current dual diagnosis services and needs.

KEY FINDINGS

Prevalence of Dual Diagnosis in Provincial Psychiatric Hospitals

As many as 13% of PPH users have a dual diagnosis, with some sites (e.g., Penetanguishene Mental Health Centre) identifying as many as 36% of their patients as having a dual diagnosis. Rates of dual diagnosis can be grossly underestimated when relying only on an individual's primary or secondary diagnosis (7.4% versus 12.3% in first six hospitals). Therefore it is important that the presence of a comorbid developmental disability be explicitly assessed as opposed to inferred based on a patient's primary or secondary diagnosis. Developmental disability is more common than any other disability in the psychiatric hospital population.

Recommendation:

- Hospital administrators, policy makers, the MOHLTC and MCFCS need to be made aware of high percentage of patients in the PPH system with a dual diagnosis as they are grossly underserved.
- Further investigation into differences in dual diagnosis prevalence rates across hospital sites is required, which should include a survey of services and supports available inside and outside of hospital for patients with a dual diagnosis.

Comparison of Patients with a Dual Diagnosis to those without

Individuals with a dual diagnosis are younger, more likely to be single and unemployed and living in dependant settings, with longer inpatient admissions than other individuals in the PPH system. They are less likely to receive certain diagnoses (substance abuse, mood disorder) but equally likely to be diagnosed as psychotic, and equally likely to have legal issues as other patients. Their most significant problems are in the areas of self-care, aggression and security / management issues but they have higher symptom ratings on most symptoms when compared to patients without a dual diagnosis combined with fewer economic, educational, internal and external (social support) resources. They have higher recommended levels of care than other patients and higher needs with regard to clinical services and supports.

Recommendations:

- Services provided by the hospitals and alternative programs developed under mental health reform should match the needs of individuals with dual diagnosis, recognizing that their needs are higher than the typical patient.
- All staff in the PPH system require training to recognize and meet the unique needs of patients with a dual diagnosis.
- Individuals specially trained in the area of dual diagnosis should be available to each program at each hospital to assist in providing appropriate assessment and treatment services to dual diagnosis patients.
- Interministerial cooperation is required so that patients with a dual diagnosis can access appropriate services through both systems in a cohesive manner.

Specialized Dual Diagnosis Programs

Seven specialized dual diagnosis programs continue to function within the Provincial Psychiatric Hospitals, serving 20% of patients with a dual diagnosis. Patients served by these programs are typically younger, more frequently male, and have significantly more issues related to aggression than other patients with a dual diagnosis. They have higher reported symptom severity and greater needs than other patients with a dual diagnosis. Despite being in specialized programs, their unmet need is even greater than for patients with a dual diagnosis in the generic hospital programs.

Recommendations:

- Greater efforts should be made to recruit and retain staff who are trained to work with patients with a dual diagnosis in specialized dual diagnosis programs, given how challenging these patients can be.
- Expertise available through dual diagnosis programs needs to be extended to provide support to the remaining 80% of individuals not in these programs.
- Appropriate resources must be provided so that current services can better match the needs of patients with a dual diagnosis in specialized dual diagnosis programs.
- Protocols and appropriate placement options need to be developed that take into account the severity of aggression displayed by patients served in specialized dual diagnosis programs.

Patient Characteristics

Provincial psychiatric hospitals are serving equal numbers of men and women with a dual diagnosis. They come from a range of backgrounds, ages, and residential settings. Most individuals with a dual diagnosis have limited education and are unemployed, two of the most important determinants of mental and physical health. The most common diagnosis given to people with a dual diagnosis is psychotic disorder, even in outpatient settings where mood and anxiety disorders are more prevalent in the general population. Mood and anxiety disorders are not common diagnoses although research would suggest that they are *undiagnosed*. The majority of individuals with a dual diagnosis served have mild developmental disabilities as opposed to severe impairments.

Recommendations:

- Further investigation into diagnostic practices with this population, it is necessary to determine whether psychotic disorders are being overdiagnosed while mood and anxiety disorders are being underrecognized. If this is the case, training is required to help clinicians make more appropriate diagnoses and treatment recommendations for these individuals.
- Further investigation into health disparities in this group, recognizing that they are less educated and less financially supported than the general psychiatric population, and that they are also less likely to have family and spousal social support is required.

Gender Issues

Equal numbers of men and women with a dual diagnosis receive services at the PPHs, however significantly more men are served in both inpatient settings and specialized dual

diagnosis programs. Women and men do not differ diagnostically with the exception that men have higher rates of personality disorders and substance abuse. Women, on the other hand, like women in the general PPH population, are more likely to have experienced past trauma or loss than men, and they also have higher rates of suicide attempts prior to receiving PPH services.

Recommendations:

- Gender issues need to be considered in the treatment of individuals with a dual diagnosis in the PPH system in the same way that they are considered for other patients.
- Women's mental health programs need training on issues of concern for women with a dual diagnosis as well as ways to modify their approach to meet needs of such women.

Aging Issues

Older individuals with a dual diagnosis are more medically compromised than younger individuals and have unique clinical concerns and diagnostic issues. Their recommended level of care is higher overall than the recommended level of care for other older adults but not when compared to younger individuals with a dual diagnosis. This is likely because aggression is less of a problem with these individuals than in younger individuals with a dual diagnosis. They have fewer documented experiences of loss and trauma than younger patients, although it is possible that service providers are simply less aware of these issues in this group.

- Services need to be modified to meet the unique needs of the aging group of individuals with a dual diagnosis.
- Staff in geriatrics need training on dual diagnosis and staff in dual diagnosis programs need training on aging issues.
- Further exploration of the older patient's experience with emotional events including loss and trauma is required.

Legal Issues

Individuals with a dual diagnosis (80% male) are as likely as anyone else to have legal problems. There is the same percentage of individuals with a dual diagnosis in the legal system as individuals without a dual diagnosis. These individuals tend to remain in the "unfit to stand trial" phase of the forensic process and may be hospitalized for long restrictive sentences as a result. They face serious difficulties when pursuing discharge options. Their needs are more severe than those of forensic patients without a dual diagnosis and patients with a dual diagnosis without forensic problems.

Recommendations:

- Specially trained forensic experts are required to deal with the unique difficulties faced by individuals with dual diagnosis in the forensic system.
- Further research is required to determine what the characteristics of patients with a dual diagnosis and legal issues are, and how their needs can be better met across the province.

Inpatients with a Dual Diagnosis

As has been reported elsewhere for individuals with developmental disability and the general population, inpatients with a dual diagnosis have problems of greater severity than outpatients and users of Homes for Special Care (HSCs). Inpatients with a dual diagnosis make up as many as 19% of inpatients served in the PPH system. However, resources for inpatients with a dual diagnosis are limited if not absent.

Long Term Inpatients

A significant proportion of inpatients with a dual diagnosis (37%) have been in hospital for longer than 5 years. These individuals have major medical comorbidities, and are significantly older than the general dual diagnosis population. They tend to be inpatients not because of the severity of their difficulties but because there are no appropriate places to discharge them.

Recommendations:

- Inpatient staff (nursing staff, allied health professionals, and physicians) need training to support inpatients with a dual diagnosis in terms of unique assessment and therapy concerns.
- Inpatient services should be modified to address unique needs of lower functioning individuals. For example, group therapies should be less reliant on verbal ability, memory and reasoning skills. More activities should be skill based and of shorter duration (e.g., 30 minutes versus 1 hour).
- Long term inpatients with a dual diagnosis should be re-assessed to determine whether their current admission is due to their high needs or the lack of appropriate alternatives. If indeed appropriate placements do not exist, funds should be allocated to create such placements and assist these individuals to leave the hospital setting.

Outpatients with a Dual Diagnosis

Outpatients with a dual diagnosis come from a variety of residential settings. A small proportion of these individuals are living with parents but the majority are either independent or living in group home or boarding home situations. They receive a mood disorder diagnosis more often than patients from other settings but are still probably overdiagnosed with psychotic disorders. Overall, their needs are higher than outpatients without developmental disability but typical outpatient services (e.g. level 2) are not designed for their higher needs.

Recommendations:

- Outpatient services for those with a dual diagnosis need to be enhanced to meet their high needs (e.g., more intensive services, crisis services combined with treatment, better communication between workers in the mental health and developmental disability sectors).
- Many crises could be prevented for outpatients with a dual diagnosis if a more proactive approach could be taken, which would include availability of an interdisciplinary team with an understanding of the developmental disability as well as the mental health concern.

Individuals Residing in Homes for Special Care (HSCs)

It seems likely that individuals residing in HSCs with a dual diagnosis are a diverse group of individuals with unique needs, depending on the home. Some parts of the province house many people with developmental disabilities in HSCs whereas other parts of the province report that HSCs are not designed for this population.

Recommendation:

- Further research is required to determine what the characteristics of HSC clients with a dual diagnosis are, and how their needs can be better met across the province.

APPENDIX A: ADVISORY COMMITTEE

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APPENDIX B: CCAR QUESTIONS

APPENDIX C: DEMOGRAPHICS BY PPH

Site -->		Brock-ville	Kingston	Hamilton	London	North Bay	Lakehead	Whitby	Penetang	CAMH	Overall
% of patients with dual dx											
Sex	Male	50.7	47.0	60.3	43.1	59.9	74.5	53.8	73.3	62.4	55.3
	Female	49.3	53.0	39.7	56.9	40.1	25.5	46.2	26.7	37.6	44.7
Age	Mean Age	45.7	51.6	43.6	47.4	46.0	38.4	48.6	47.0	46.1	46.7
Marital Status	Single (never married)	24.1	68.9	78.8	59.0	85.2	78.4	82.4	90.3	86.9	77.4
	Married / Common Law	3.8	14.3	1.5	17.3	3.5	19.6	10.2	1.6	2.7	8.3
	Separated	1.0	7.6	0.0	4.9	0.9	0.0	5.3	2.2	1.1	2.9
	Divorced	7.7	7.6	16.7	11.4	7.0	2.0	0.5	5.9	3.8	7.6
	Widowed	3.4	1.7	3.0	7.4	3.0	0.0	1.6	0.0	5.5	3.7
Education	Elementary school or less	63.9	29.4	44.7	43.0	61.6	9.8	62.7	78.5	37.4	51.7
	Some high school	26.9	44.5	38.6	51.0	15.9	49.0	20.5	10.2	54.4	34.5
	Completed high school	4.8	0.0	4.5	3.1	1.7	0.0	2.2	1.1	2.2	2.5
	Some post secondary	1.0	2.5	9.1	2.7	5.6	2.0	0.0	0.5	3.3	2.9
	Completed post secondary	0.0	0.8	0.0	0.0	0.9	0.0	0.0	2.7	0.5	0.5
	Don't know	3.4	22.7	3.0	0.2	14.2	39.2	14.6	7.0	2.2	8.0
Legal	On probation	0.6	5.0	1.5	4.0	4.7	2.0	5.4	3.4	0.6	3.3
	On Parole	0.0	0.8	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.7
	Unfit to stand trial	0.6	0.0	1.5	0.5	0.9	0.0	1.1	1.1	6.9	1.4
	Not Criminally Responsible	2.4	2.5	0.8	1.5	0.0	0.0	2.7	1.1	10.9	2.4
	Forensic assessment	0.0	0.8	0.8	2.5	0.0	0.0	0.5	0.0	4.0	1.2
	Charges pending	1.8	0.8	0.8	0.0	0.4	0.0	4.3	0.6	4.0	1.3
	No Legal Problems	92.9	90.7	93.9	87.2	91.4	74.5	85.6	90.6	77.5	87.9
	Other	1.7	0.0	0.7	1.6	2.6	23.5	0.4	3.2	0	1.8
Usual Living Arrangement	Lives with parent(s)	1.9	0.8	18.9	5.1	9.9	0.0	7.6	1.1	15.1	6.9
	Lives with spouse / partner	4.3	9.2	0.8	16.4	2.6	20.4	10.3	1.6	2.8	7.7
	Lives with other relative	6.7	0.0	6.1	2.4	5.6	0.0	1.6	1.6	0.6	3.0
	Lives alone	7.1	11.8	10.6	12.5	8.2	20.4	10.3	2.2	21.2	10.7
	Lives with unrelated person	80.9	78.2	63.6	44.3	73.8	59.2	70.1	93.5	60.3	66.9

Site -->		Brock-ville	Kingston	Hamilton	London	North Bay	Lakehead	Whitby	Penetang	CAMH	Overall
% of patients with dual dx											
Usual Place of Residence	Rooming / Boarding house	15.4	20.5	26.5	16.9	14.3	0.0	10.7	4.3	35.9	16.8
	Shelter / Hotel	0.0	0.0	0.8	19.3	0.0	0.0	0.0	0.0	0.5	4.8
	On the Street	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.5	0.1
	Coop / Group home (not HSC)	38.5	10.7	27.3	12.3	33.8	58.8	5.9	46.5	6.5	23.2
	Nursing/ Long term care facility	3.8	2.7	9.1	46.9	0.9	0.0	1.6	3.8	5.4	14.0
	Private home / Apartment	27.4	40.2	33.3	3.9	22.5	19.6	29.9	10.3	27.7	20.5
	Approved home	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.5	0.3
	Hospital	14.9	25.9	2.3	0.7	28.6	21.6	10.7	9.7	15.8	12.3
	HSC	0.0	0.0	0.0	0.0	0.0	0.0	39.0	25.4	7.1	7.8
Employment Status	Not working	46.9	94.9	89.2	92.5	89.2	100.0	94.7	83.7	99.5	86.6
	Working	3.3	4.2	2.3	5.0	3.9	0.0	5.3	16.3	0.5	5.0
	Other	49.8	0.8	8.5	2.5	6.9	0.0	0.0	0.0	0.0	8.4
Status	Inpatient	20.1	36.4	12.9	21.9	34.6	21.6	18.7	21.1	31.7	24.3
	Outpatient	62.7	44.9	72.0	66.8	57.7	78.4	43.3	56.2	65.0	60.4
	HSC	17.2	18.6	15.2	11.3	7.7	0.0	38.0	22.7	3.3	15.3

APPENDIX D: DEMOGRAPHICS BY PATIENT STATUS

Status -->		Inpatient %	Outpatient %	HSC %	Total %
Sex	Male	66.7	52.3	49.4	55.3
	Female	33.3	47.7	50.6	44.7
Age	Mean age	46.60	44.35	55.88	46.67
	Age range	17-98	18-81	28-82	17-98
Marital Status	Single (never married)	85.1	71.1	90.4	77.5
	Married / Common Law	4.8	11.9	0.0	8.4
	Separated	1.2	2.4	6.9	2.8
	Divorced	5.5	10.0	1.5	7.6
	Widowed	3.4	4.5	1.2	3.7
Education	Elementary school or less	54.4	48.4	60.1	51.6
	Some high school	31.8	39.3	19.4	34.4
	Completed high school	2.9	3.1	0.0	2.6
	Some post secondary	2.2	3.6	0.8	2.8
	Completed post secondary	1.2	0.0	1.5	0.5
	Don't know	7.5	5.6	18.3	8.0
Legal Status	On probation	4.0	3.5	1.6	3.3
	On Parole	0.5	1.0	0.0	0.7
	Unfit to stand trial	4.5	0.5	0.0	1.4
	Not Criminally Responsible	6.3	1.5	0.0	2.4
	Forensic assessment	2.3	1.1	0.0	1.2
	Charges pending	2.0	1.4	0.0	1.3
	Other	2.0	1.9	0.0	1.8
	No Legal Problems	78.4	89.1	98.4	87.9
Usual Living Arrangement	Lives with parent(s)	6.9	8.5	0.8	6.9
	Lives with spouse / partner	3.4	11.3	0.0	7.7
	Lives with other relative	1.2	4.5	0.0	3.0
	Lives alone	5.6	15.3	1.1	10.8
	Lives with unrelated person	63.2	60.4	98.1	66.9
	Inpatient	19.6	0.0	0.0	4.7
Usual Place of Residence	Rooming / Boarding house	22.4	17.3	5.4	16.8
	Shelter / Hotel	1.9	2.6	18.1	4.8
	On the Street	0.5	0.0	0.0	0.1
	Coop / Group Home (not HSC)	7.7	29.8	22.4	23.3
	Nursing / Long term care facility	4.1	21.5	0.0	14.0
	Private Home / Apartment	10.8	27.6	7.7	20.5
	Approved Home	1.0	0.1	0.0	0.3
	Hospital	50.6	0.1	0.0	12.4
	HSC	1.0	0.9	46.3	7.8
Employment Status	Not working	91.0	83.4	92.0	86.6
	Working	1.0	7.1	3.0	5.0
	Other	8.0	9.5	4.9	8.5

APPENDIX E: DESCRIPTIONS OF SPECIALIZED DUAL DIAGNOSIS PROGRAMS

Brockville Psychiatric Hospital
Brockville Psychiatric Hospital (BPH) has a dual diagnosis inpatient unit with 29 beds as well as an ACT team specifically for dual diagnosis that serves about 50 clients. In terms of staff, BPH's dual diagnosis inpatient program employs approximately 36 staff, including RNs, RPNs, a leisure therapist, a vocational counselor, a GP, and a psychiatrist (on a consultative basis). The outpatient team has approximately 8 staff, including RNs, an RPN, a behaviourist social worker, and a vocational counsellor. One of the major issues faced by this site is finding appropriate placements for dual diagnosis clients, specifically Level 4-type homes with adequate supports.

Centre for Addiction and Mental Health (CAMH)
The dual diagnosis program at CAMH includes consultation and time limited treatment services to both individuals / families and to other CAMH programs. CAMH has an inpatient unit with 15 beds and a day treatment program that serves inpatients and outpatients living in the community. The inpatient and day treatment program employs approximately 33 staff, including a psychiatrist, a psychologist, a behaviour therapist, a recreational therapist, a part time occupational therapist, a social worker, a ward clerk, RNs, RPNs , and child and youth workers. Staff for the Toronto Community Team include a psychiatrist, a psychologist, a case worker, a social worker, an occupational therapist, and a nurse. The Toronto Community Team at CAMH includes a partnership with the Griffin Community Support Network, a continuum of crisis services. Criteria for admission into the program are under review, but currently involve being 16 years or older with a developmental disability and emotional / behavioural difficulties. Recruitment of staff in all disciplines with training or experience in dual diagnosis is a key challenge for the CAMH program. The program is also investigating the construction of an Intensive Observation Area within the inpatient unit to more safely support persons with aggression, self injury, or destructive behaviour. Staff in the program are actively involved in research projects within the Centre and Nationally, as well as in providing education and training to community providers, college and university programs.

Hamilton Psychiatric Hospital (now called St Josephs Centre for Mountain Health Services)
Hamilton Psychiatric Hospital serves patients with a dual diagnosis in the form of outpatient consultation as well as short term treatment. HSCs in the area do not provide specific dual diagnosis services, but do accept patients with a dual diagnosis. This site is currently developing inpatient beds. It is anticipated that there will be 2 dual diagnosis beds initially, with the possibility of an increase if the program is successful. Criteria for admission to this program involves a need for neuropsychiatric assessment and a pharmacological trial. This program employs 2 psychiatrists and 2 nurses who work specifically in the dual diagnosis program.

Mental Health Centre Penetanguishene
The Bayview Dual Diagnosis Program (BDDP) in Penetanguishene has a 25 bed inpatient unit, as well as a community team which serves approximately 100 clients. Criteria for admission into this program include being 16 years or older, having a diagnosis of a developmental delay since birth, having indication of mental health problems, and being medically stable. The BDDP employs approximately 63 multidisciplinary staff members from a variety of disciplines

including psychiatry, medicine, nursing, social work, psychology, recreation, developmental services, rehabilitation, and occupational therapy. The BDDP offers psychiatric assessment and treatment to individuals with a developmental disability and mental health problems. Other services include referral, consultation, inpatient assessment, treatment/stabilization and community follow-up. Some of the issues faced by this program are: education of community partners about tertiary care, following protocols established by the program for admissions, finding available discharge placements in the community for long term clients, and having clients on the inpatient unit who do not fit the criteria.

North Bay Psychiatric Hospital

The Developmental Disabilities Program (DDP) of the North Bay Psychiatric Hospital (NBPH) provides comprehensive psychiatric assessments and treatment to individuals in the Northeastern Region of Ontario who have a developmental disability and mental health concerns. The DDP strongly emphasizes interdisciplinary and inter-ministerial collaboration. Since the programs inception in 1993, the DDP of the NBPH has evolved from one consultant psychiatrist to include a staff compliment of 2 psychiatrist, 5 clinicians, 1 Registered Nurse Practitioner (RPN) a clinical service co-ordinator a resource clinician and 1 full time clerical support. The program's district based outreach mental health clinicians, in conjunction with the consultant psychiatrist, works collaboratively with community based multidisciplinary teams most commonly located in the client's place of residence. The DDP has acquired considerable experience in successfully supporting the re-integration of individuals from institutional to community settings. As a result, the program has initiated discussions with the Ministry of Community, Family and Children Services (MCFCS) to develop a process to support the discharge of individuals with DD and long-term hospitalizations at NBPH.

Whitby Mental Health Centre

The dual diagnosis (DDS) program at Whitby Mental Health Centre (WMHC) includes inpatient (20 beds), outpatient, and consultation services. This program is associated with an HSC that provides services for WMHC more generally, including the DDS program. This program employs approximately 50 staff members including nursing staff, a psychologist, a social worker, an occupational therapist, a leisure and life skills instructor, a psychiatrist, a physician, and a nurse practitioner. Criteria for admission to this program include being 18 years or older, being medically stable, having a diagnosis of mental retardation, and having an indication of mental health and/or behavioural difficulty. One of the most significant barriers this program faces is finding community placements for patients. There are plans for expansion of the Community Outreach Program component in 2003.

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