

CHAPTER 3

SCHIZOPHRENIA

Highlights

- **Schizophrenia affects 1% of the Canadian population.**
- **Onset is usually in early adulthood.**
- **Schizophrenia can be treated effectively with a combination of medication, education, primary care services, hospital-based services and community support, such as housing and employment.**
- **Fifty-two percent of hospitalizations for schizophrenia in general hospitals are among adults 25-44 years of age.**
- **Hospitalization rates for schizophrenia in general hospitals are increasing among young and middle-aged men.**

What Is Schizophrenia?

Schizophrenia is a brain disease and one of the most serious mental illnesses in Canada. Common symptoms are mixed-up thoughts, delusions (false or irrational beliefs), hallucinations (seeing or hearing things that do not exist) and bizarre behaviour. People suffering from schizophrenia have difficulty performing tasks that require abstract memory and sustained attention.

All the signs and symptoms of schizophrenia vary greatly among individuals. There are no

laboratory tests to diagnose schizophrenia. Diagnosis is based solely on clinical observation. For a diagnosis of schizophrenia to be made, symptoms must be present most of the time for a period of at least 1 month, with some signs of the disorder persisting for 6 months. These signs and symptoms are severe enough to cause marked social, educational or occupational dysfunction. The Canadian Psychiatric Association has developed guidelines for the assessment and diagnosis of schizophrenia.¹

| <u>Symptoms</u> |
|--|
| <u>Schizophrenia</u> |
| <ul style="list-style-type: none">• Delusions and/or hallucinations• Lack of motivation• Social withdrawal• Thought disorders |

How Common Is Schizophrenia?

The prevalence of schizophrenia in the general population is estimated to vary between 0.2% and 2%, depending upon the

measures used. However, a prevalence rate of 1% is generally accepted as the best estimate.²

Impact of Schizophrenia

Who Is Affected by Schizophrenia?

The onset of schizophrenia typically occurs between the late teens and mid-30s. Onset before adolescence is rare. Men and women are affected equally by schizophrenia, but men usually develop the illness earlier than women. If the illness develops after the age of 45, it tends to appear among women more than men, and they tend to display mood symptoms more prominently.

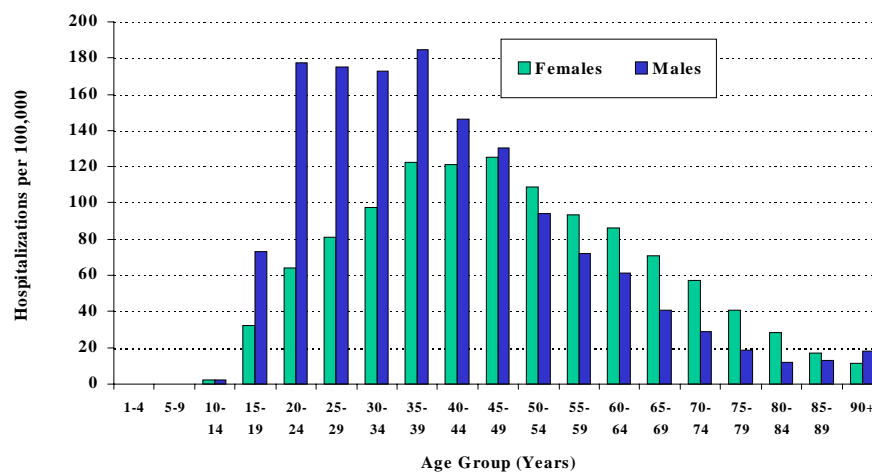
Ideally, data from a population survey would provide information on the age/sex distribution of individuals with schizophrenia. Statistics Canada's Canadian Community Health Survey (CCHS) will provide data on the prevalence of self-reported schizophrenia in the future. This will likely underestimate the true prevalence, however, since the survey team will not reach those individuals with

schizophrenia who are homeless, in hospital or in supervised residential settings.

Although most individuals with schizophrenia are treated in the community, hospitalization is sometimes necessary to stabilize symptoms. At the present time, hospitalization data provide the best available, though limited, description of individuals with schizophrenia.

In 1999, rates of hospitalization for schizophrenia in general hospitals varied with age (Figure 3-1). Rates among men increased dramatically in the 20-24 year age group and remained high before beginning to decrease among 40-44 year olds. The pattern among women showed a gradual increase in hospitalizations to a peak between 35 and 49 years, after which it showed a steady decline. Men had much higher rates than women until the age of 50, after which rates among women were slightly higher.

Figure 3-1 Hospitalizations for schizophrenia* in general hospitals per 100,000 by age group, Canada, 1999/2000



* Using most responsible diagnosis only

Source: Centre for Chronic Disease Prevention and Control, Health Canada using data from Hospital Morbidity File, Canadian Institute for Health Information

How Does It Affect Them?

Schizophrenia has a profound effect on an individual's ability to function effectively in all aspects of life - self-care, family relationships, income, school, employment, housing, community and social life.³

The high rates of hospitalization among young and middle-aged men and women highlight the effect of schizophrenia on people who are in their most productive years - a time when most people are forming families, establishing careers, and generally "building equity" in their lives.

Early in the disease process, people with schizophrenia may lose their ability to relax, concentrate or sleep and they may withdraw from friends. Performance at work or school often suffers. With effective early treatment to control symptoms, individuals can prevent further symptoms and optimize their chance of leading full, productive lives.

The onset of schizophrenia in the early adulthood years usually leads to disruptions in an individual's education. Individuals with schizophrenia often find it difficult to maintain employment for a sustained period of time.

Although some individuals have healthy relationships, the majority with schizophrenia (60% to 70%) do not marry, and most have

limited social contacts.⁴ The chronic course of the disorder contributes to ongoing social problems. As a result, individuals with schizophrenia are greatly over-represented in prison and homeless populations.⁴

Up to 80% of individuals with schizophrenia will abuse substances during their lifetime. Substance abuse is associated with poor functional recovery, suicidal behaviour and violence.¹

The responsibility for primary care of an individual with schizophrenia usually falls on the shoulders of the family. This has many implications. Not only are the family's normal activities disrupted, but family members must also cope with the unpredictability of the individual affected, the side effects of the medication, and the frustration and worry about the future of their loved one. In times of crisis, the decision whether to admit the individual to hospital involuntarily is one of the most difficult dilemmas that a family may face. The family often has to deal with the stigma attached to schizophrenia.

The mortality associated with schizophrenia is one of the most distressing consequences of the disorder. Approximately 40% to 60% of individuals with schizophrenia attempt suicide, and they are between 15 to 25 times more likely than the general population to die from a suicide attempt.⁵ Approximately 10% will die from suicide.

Economic Impact

Schizophrenia places a substantial financial burden on individuals with the illness, the members of their family and the health care system. In 1996, the total direct cost of schizophrenia in Canada was estimated to be \$2.35 billion, or 0.3% of the Canadian Gross Domestic Product.⁶ This includes health care

costs, administrative costs of income assistance plans, value of lost productivity, and incarceration costs attributable to schizophrenia. The indirect costs of schizophrenia are estimated to account for another \$2 billion yearly. Globally, nearly 3% of the total burden of human disease is attributed to schizophrenia.⁷

Stigma Associated with Schizophrenia

Public misunderstanding and fear contribute to the serious stigma associated with schizophrenia. Contrary to popular opinion, most individuals with the disorder are withdrawn and not violent. Nonetheless, the stigma of violence interferes with an

individual's ability to acquire housing, employment and treatment, and also compounds difficulties in social relationships. These stereotypes also increase the burden on families and care givers.

Causes of Schizophrenia

Historically, a number of psychological hypotheses were advanced to account for schizophrenia. Today medical science recognizes schizophrenia as a disease of the brain. Although the exact cause is unknown, it is likely that a functional abnormality in neurotransmitters produces the symptoms of the illness. This abnormality may be either the consequence or the cause of structural brain abnormalities.⁸

A combination of genetic and environmental factors is considered to be responsible for the development of this functional abnormality. These factors appear to affect the development of the brain at critical stages during gestation and after birth.

Genetic Influence

Immediate family members of individuals with schizophrenia are 10 times more likely than the general population to develop schizophrenia, and children of two parents with schizophrenia have a 40% chance of developing the disorder.³

Environmental Factors

Although the evidence to date is inconclusive, potential environmental contributions to the development of schizophrenia include prenatal or perinatal trauma, season and place of birth, and viral infections. While studies have established a link between severe social disadvantage and schizophrenia, the results suggest that social factors do not cause schizophrenia, but rather the reverse may be true: poor social circumstances are likely a result of the disorder.²

Treatment of Schizophrenia

Unfortunately, given our state of knowledge, methods for preventing schizophrenia remain unknown. Minimizing the impact of this serious illness depends mainly on early diagnosis, appropriate treatment and support.

Schizophrenia differs from other mental illnesses in the intensity of care that it requires. A comprehensive treatment program includes¹:

1. Antipsychotic medication, which forms the cornerstone of treatment for schizophrenia
2. Education of the individual about his/her illness and treatment
3. Family education and support
4. Support groups and social skills training
5. Rehabilitation to improve the activities of daily living
6. Vocational and recreational support
7. Cognitive therapy⁹
8. Integrated addictions program¹⁰

The course of schizophrenia varies, but in most cases it involves recurrent episodes of symptoms. Although available pharmacological treatments can relieve many of the symptoms, most people with schizophrenia continue to suffer some symptoms throughout their lives.

Appropriate treatment early in the course of the disease and adherence to continued and adequate treatment are essential to avoiding relapses and preventing hospitalization.

During periods of remission, whether spontaneous or due to treatment, the individual may function well. Newer medications (and improved dosage guidelines for older medications) have substantially reduced the prevalence of severe neurological side effects that were once commonly associated with long-term pharmacological treatment of schizophrenia.

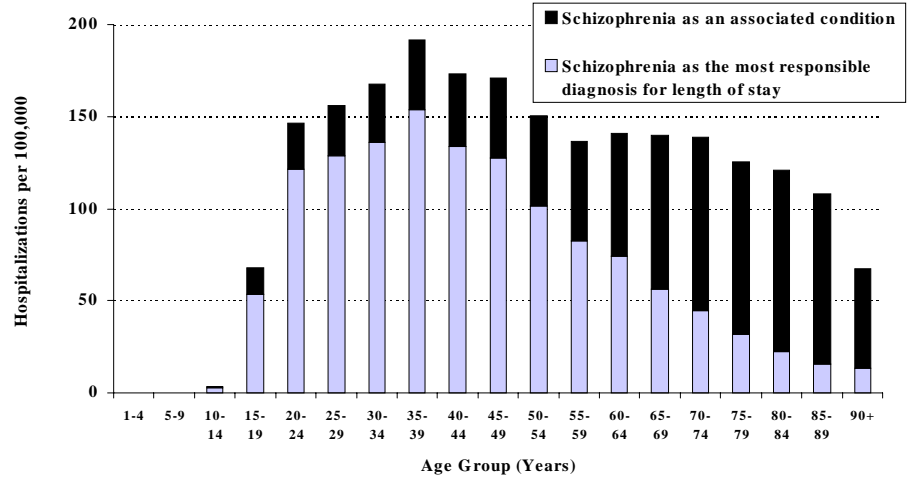
Optimizing the functional status and well-being of individuals with schizophrenia requires a supportive family and wide range of services, including institutional, community, social, employment and housing services. Ideally, multidisciplinary community treatment teams provide these services.

Social skills training strives to improve social functioning by working with individuals to resolve problems with employment, leisure, relationships and activities of daily life.

Occasionally, however, timely admission to hospital to control symptoms may prevent the development of more severe problems. Canadian hospitalization data provide insight into the use of hospital services as one of the treatment modalities.

In 1999, in the younger age groups with schizophrenia, the disorder was the diagnosis most responsible for determining their length of stay in hospital (Figure 3-2). In older age groups (65+ years), schizophrenia was more likely to be an associated condition.

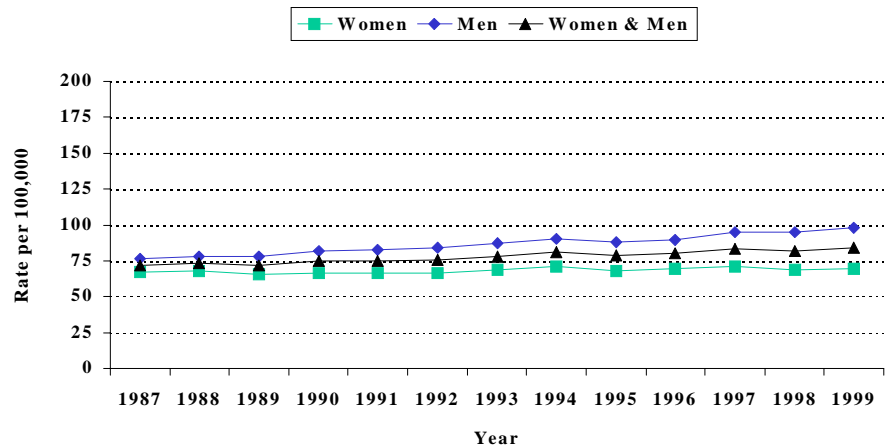
Figure 3-2 Hospitalizations for schizophrenia in general hospitals per 100,000 by contribution to length of stay and age group, Canada, 1999/2000



Source: Centre for Chronic Disease Prevention and Control, Health Canada using data from Hospital Morbidity File, Canadian Institute for Health Information

Between 1987 and 1999, hospitalizations for schizophrenia increased slightly among women (3%), but they increased dramatically among men (28%) (Figure 3-3).

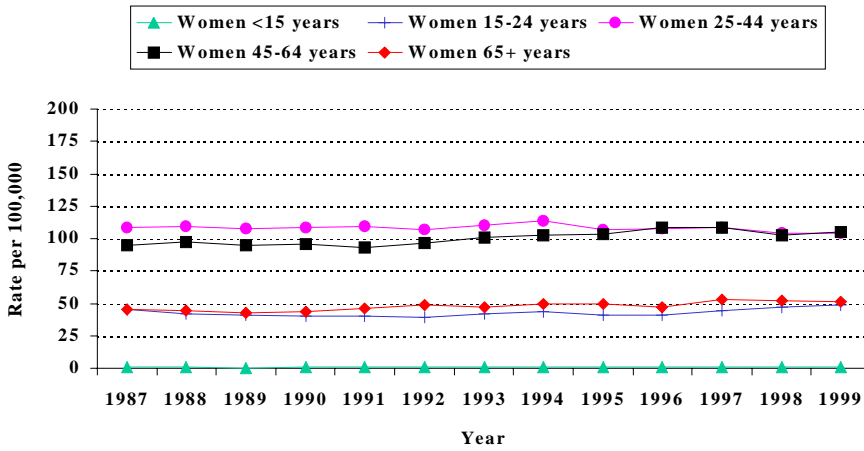
Figure 3-3 Rates of hospitalization for schizophrenia* in general hospitals by sex, Canada, 1987/88-1999/2000 (standardized to 1991 Canadian population)



* Using most responsible diagnosis only

Source: Centre for Chronic Disease Prevention and Control, Health Canada using data from Hospital Morbidity File, Canadian Institute for Health Information

Figure 3-4 Rates of hospitalization for schizophrenia* among women in general hospitals, Canada, 1987/88-1999/2000 (standardized to 1991 Canadian population)

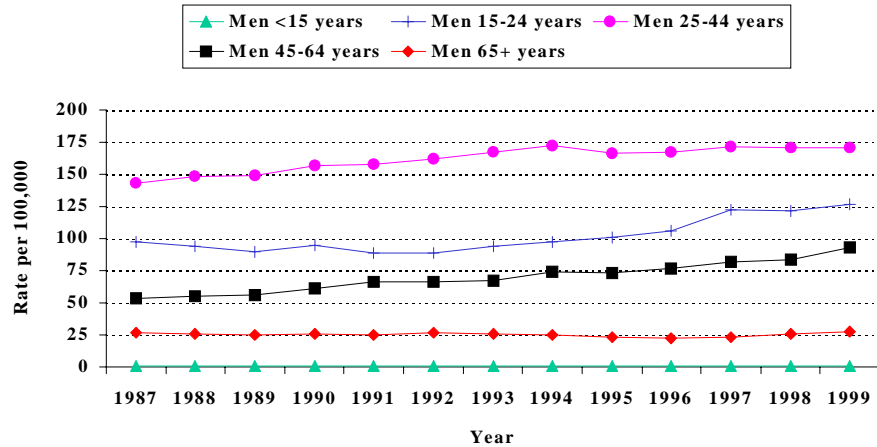


* Using most responsible diagnosis only

Source: Centre for Chronic Disease Prevention and Control, Health Canada using data from Hospital Morbidity File, Canadian Institute for Health Information

Hospitalization rates among women aged 45-64 and 65+ years demonstrated a slight increase between 1987 and 1999 (Figure 3-4). Rates among women aged between 25 and 44 years decreased during the same period.

Figure 3-5 Rates of hospitalization for schizophrenia* among men in general hospitals, Canada, 1987/88-1999/2000 (standardized to 1991 Canadian population)

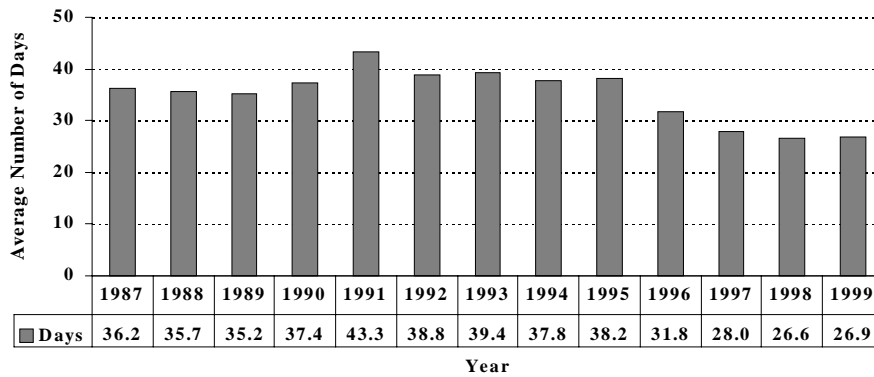


* Using most responsible diagnosis only

Source: Centre for Chronic Disease Prevention and Control, Health Canada using data from Hospital Morbidity File, Canadian Institute for Health Information

Hospitalization rates for schizophrenia rose among men in all age groups from 15 to 64 years between 1987 and 1999 (Figure 3-5).

Figure 3-6 Average length of stay in general hospitals due to schizophrenia*, Canada, 1987/88-1999/2000



In 1999, the average length of stay in general hospitals due to schizophrenia was 26.9 days - a decrease of 26% since 1987 (Figure 3-6).

* Using most responsible diagnosis only

Source: Centre for Chronic Disease Prevention and Control, Health Canada using data from Hospital Morbidity File, Canadian Institute for Health Information

Discussion of Hospitalization Data

The high hospitalization rates for schizophrenia among young adults support the clinical finding that the onset of schizophrenia typically occurs in adolescence and early adulthood. Higher rates among young men than young women agree with the observation that although schizophrenia affects both men and women, men develop it at an earlier age. Assessing whether the illness affects men differently than women in such a way that they require more hospitalization needs further research.

The increasing hospitalization rates for schizophrenia in general hospitals among young and middle-aged men may reflect, in part, the loss of psychiatric hospital beds that provided care for these men before de-institutionalization. This care has now shifted

to general hospitals. More research is needed to determine whether this also reflects shortcomings in the community treatment of the disease requiring hospitalization in order to control symptoms.

The length of stay in hospital associated with schizophrenia has decreased since 1995. This may reflect either improved treatment or the effect of decreases in hospital funding, which put pressure on the institutions to discharge people earlier than in previous years. Discharging people too early could be contributing to the increase in hospitalization rates through the need for re-admissions. Further research is needed to understand both the reason for this trend and its impact on individuals.

Future Surveillance Needs

Schizophrenia is a very serious mental illness with major ramifications for individuals and families, causing not only a great deal of personal distress but also impairment of social and occupational functioning. Fortunately, schizophrenia can be treated effectively.

Existing data provide a very limited profile of schizophrenia in Canada. The available hospitalization data need to be complemented with additional data to fully monitor this illness in Canada. Priority data needs include:

- Incidence and prevalence of schizophrenia by age, sex and other key variables (for example, socio-economic status, education and ethnicity).
- Impact of schizophrenia on the quality of life of the individual and family.
- Access to and use of health care services and community-based programs.
- Treatment outcomes.
- Access to community supports, such as housing, employment and education.
- Impact of schizophrenia on the workplace and the economy.
- Stigma associated with schizophrenia.
- Exposure to known or suspected risk and protective factors.

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