

ORIGINAL PAPER

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Attitudes about schizophrenia from the pilot site of the WPA worldwide campaign against the stigma of schizophrenia

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Abstract *Background* A series of surveys were conducted to assess the attitudes of the public, and other groups, toward those with schizophrenia. The aim of these surveys was to aid in the planning and evaluation of the WPA anti-stigma initiative in Alberta, Canada. *Method* A questionnaire was devised and administered via telephone to over 1,200 individuals in three Alberta cities, and in paper and pencil format to 40 members of the Schizophrenia Society of Alberta and 67 medical students. *Results* In contrast to some earlier findings, “loss of mind” was rated to be more disabling than any other

handicapping condition. In general, respondents showed a relatively sophisticated understanding of schizophrenia and a higher level of acceptance than might have been predicted. Nonetheless, this acceptance was not as high for situations where closer personal contact was likely, and fears of dangerousness continue to be associated with schizophrenia. The majority of respondents, however, felt that treatment aided those with schizophrenia, expressed support for progressive programmes for the mentally ill, and stated that they would be willing to pay higher taxes so that programming could be improved. *Conclusions* The results do not support the utility of a broad approach for an anti-stigma campaign, but rather suggest a more specific focus, such as perceived dangerousness.

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Introduction

This work derives from the World Psychiatric Association (WPA) campaign to fight stigma associated with schizophrenia. It is one of a number of publications that will be appearing from different parts in the world as the Campaign is undertaken in different countries worldwide. The participating countries to date include Austria, Canada, China, Egypt, Greece, Italy, Germany, and Spain.¹ The Canadian province of Alberta served as a pilot site for the campaign in terms of development and trial of interventions designed to reduce stigma. The studies reported here were designed to assess attitudes toward schizophrenia and toward the people who have schizophrenia. Their purpose was to provide a baseline, against which the impact of the campaign could be compared.

¹ Members of the WPA Steering Committee are Professors N. Sartorius (Switzerland), J. J. López-Ibor (Spain), C. N. Stefanis (Greece), N. N. Wig (India), and J. Arboleda-Florez (Canada).

There seems to be no doubt that there is a stigma associated with mental illness, in general, and schizophrenia in particular. The literature is replete with examples of the mentally ill being treated as second-class citizens, being the first fired and the last hired, and, when housed in community group homes, being seen as unwelcome neighbours or, in fact, being prevented from taking up residence in the first place. For example, Allbrecht et al. (1982) found mental illness to be clustered with drug addiction, prostitution, and criminal conviction as highly "rejecting" conditions when compared to cancer, diabetes, and heart disease. Over three decades ago, Lamy (1966) noted that the public rated the mentally ill below ex-convicts, and Tringo (1970) found the mentally ill to be perceived to be less acceptable than a selection of disability groups.

More recently, the public has displayed positive (or at least neutral) attitudes toward the mentally ill, with only a minority expressing negative or nonsupportive views in, at least, Canada (Dear and Taylor 1982; Tefft et al. 1987), the United States (Rabkin et al. 1984), and Greece (Madianos et al. 1999). Rabkin et al. (1984) found positive attitudes toward already existing neighbourhood facilities among New York City residents. These authors noted, however, that although the respondents lived within one block of a psychiatric facility, 75% were unaware of its existence. Generally, deinstitutionalization is favoured over continued institutional placement (Wilmoth et al. 1987), but, nonetheless, there is ample evidence that community placements, employment opportunities, and other attempts at integration of the mentally ill are met with resistance (Dear and Taylor 1982; Estroff 1981; Gronfein 1985; Wistrom 1987).

While it is not our purpose to examine the important area of discrepancies between attitude and behaviour here, two explanations have been noted in the mental health literature. Link and Cullen (1983) and McPherson and Cocks (1983) have implicated a response bias in that individuals may respond in a socially desirable way that is not reflective of their actual opinion. This appears to be particularly true when face-to-face interviews are used, as opposed to self-administered questionnaires (McPherson and Cocks 1983). The second possibility is that although a minority exhibit negative attitudes, these individuals are extremely vocal (Dear and Taylor 1982; Tefft et al. 1987), and, thus, their views are presumably over-represented in media accounts of community reactions.

The validity of these assertions has not been seriously questioned, but they deal with problems of measurement of stigma, not its meaning. This leaves unscathed the general belief that stigma produces a powerful negative influence on the mentally ill. Recent evidence of this, of course, is the advent of the WPA worldwide campaign against stigma that is associated with schizophrenia. The solution that often follows from this belief is to reduce stigma by modifying public views via attitude-change campaigns. Many countries participating in the WPA initiative have begun such activities,

often targeting specific groups such as teens, teachers, health professionals, and police (Rosen et al. 2000). Australia has completed a national campaign to raise awareness of all mental illnesses. Notably, although support for the campaign was deemed to be high, there was little evidence of behaviour change (National Mental Health Report 1997). Rosen et al. have raised the possibility that this may have been due to the fact that severe mental illnesses were not dealt with specifically enough. Another possibility, however, is that attitude change may only be effective in groups that have extremely negative views of the mentally ill. As Rosen et al. have noted, the Australian public had shown "fairly tolerant" views before the campaign was undertaken. Perhaps they were as positive as could reasonably be expected. That is, there may be a "ceiling effect" in such situations, where an upper limit is defined by some particular factor.

A specific factor that limits the extent to which overall stigma can be reduced might well be dangerousness. The mentally ill are clearly thought to be dangerous by members of the general public, as exemplified by studies in the United Kingdom (Appleby and Wessely 1988) and the United States (Levinson and York 1974; Link et al. 1999; Pescosolido et al. 1999). An English study found this view to be especially common among those with children (Wolff et al. 1996). This attitude has been found to be aimed, in the main, toward males with a history of psychiatric treatment who are young and single (Levinson and York 1974). Such views are held in spite of some research evidence that the proportion of dangerous individuals is about the same for psychiatric and non-psychiatric populations (Barnes and Toews 1983; Baron and Piasecki 1981; Greenley 1984). This is, however, a controversial conclusion. For example, in Canada, Bland et al. (1998) found rates of mental illness in prisoners to be much higher than that for the general population. Furthermore, Taylor and Gunn (1999) noted that the mentally ill were over-represented among murderers in England and Wales, but that the proportion of such deaths that were attributable to those with mental disorders had shown a small and steady decline over the years 1957–1995. An important finding from both the United Kingdom (Taylor and Gunn 1999) and Denmark (Gabrielsen et al. 1992) is that individuals with schizophrenia who do commit murder are most likely to kill someone that they know well – not strangers. This is, of course, not to say that one death is any more important than another, but that the public expressions of fear of violence in this context are about those with schizophrenia who are not known to them. Those who know someone with schizophrenia are much more accepting, although they are at greater risk.

A mitigating factor in terms of dangerousness (and other attitudes, in fact) is the perceived prognosis of mental disorder. Those who believe that the mentally ill have a poor chance of recovery (with or without treatment) are, understandably, less supportive of attempts to place "ex-patients" in their community (Eker 1985; Flakerud and Kviz 1983; Norman and Malla 1983). Jorm

Table 1 Characteristics of the five WPA Pilot Project studies

Study	N	Subject selection	Mode	Returned	Lead
Calgary	408	Random within sex	Telephone	72%	Stuart
Drumheller	441	Random within sex	Telephone	72%	Stuart
Edmonton	420	Random within sex	Telephone	72%	Thompson
Schizophrenia Society	40	Meeting attendees	Paper and Pencil	44% ^a	Thompson
Medical students	67	Enrolees	Paper and Pencil	100%	Bland

^a This is an underestimate. An unknown number of people attended the meeting who were officials of agencies that serve people with schizophrenia and were, thus, not eligible to complete the questionnaire

et al. (1999) found that the general public was less optimistic about outcomes for those with schizophrenia than for depressed persons, and health professionals rated the prognosis for schizophrenia more negatively than did the public. In regard to treatment, Angermeyer and Matschinger (1994), in the newly reunified Germany, found that the public tends to have a preference for psychological interventions over the use of psychotropic medication. Very similar results were found by Jorm et al. (1997) using a large Australian sample.

At any rate, it should not be surprising that individuals who believe that the mentally ill are dangerous do not wish to have them in close proximity to themselves, their families, or to their homes.

The purpose of the present report is to describe and comment on baseline data pertaining to the nature and extent of stigma in a WPA pilot site. Particular emphasis was placed on the level of stigma and selected mitigating factors.

Subjects and methods

The Alberta Studies

Five studies pertaining to the WPA stigma pilot project were conducted. An outline of the nature of these studies is shown in Table 1 (note that the studies differed somewhat in the questions used and in methodology).² The survey of medical students was conducted in 1998, with the remainder being completed in 1997. Schizophrenia Society members were surveyed because of their vested interest in the topic and medical students because of their likely future role in treating the mentally ill. The data from these two groups were included in the present analysis because it was expected that their views would often provide an interesting context for the understanding of general population attitudes.

Selected data from two of these surveys (Calgary and Drumheller) have recently been used to discuss "perceiver" characteristics (Stuart and Arbóleda-Florez 2001).

Edmonton and Calgary are the two largest cities in the province of Alberta, comprising about 600,000 persons each. Edmonton is situated in the centre of the Province, with Calgary being 285 kilometres due south. Drumheller lies about 140 km east of Calgary, and is generally considered to be a rural community. Its population is about 6,500 individuals. The pilot projects proper were located in Drumheller and Calgary. Data were collected in Edmonton for comparison purposes. A general description of the Pilot Site interventions can be found in Volume III of The WPA Global Programme against Stigma and Discrimination because of Stigma.

² Copies of the questionnaires that were used can be obtained from Dr. Thompson or Dr. Stuart.

Procedure

Community Surveys

The Calgary, Edmonton, and Drumheller surveys followed the same procedure. Data collection was handled by the Population Health Unit of the Calgary Regional Health Authority – a research unit specializing in population surveys for regional health planning. All interviewers were trained in telephone questionnaire administration. Candidate telephone numbers (excluding business exchanges) were randomly selected from computerized telephone listings. In the urban areas, where unlisted telephone numbers occur frequently, one digit was added to each four-digit telephone suffix to ensure that unlisted numbers were included. Because of the small number of unlisted numbers used in rural areas, this procedure proved unnecessary in Drumheller. New exchanges updated within the year were not contained in the telephone database so were necessarily excluded from the survey. Using a stratified sampling design, rural residents were over-sampled to allow for subsequent sub-group analyses. To maximize response rates and ensure even socio-economic coverage, interviewers called during evenings and weekends and allowed up to three callbacks for busy numbers and no-answers. Individuals were eligible if they were 15 years of age or older and English speaking. Up to three callbacks were arranged when an adult was not available, or when the time was not convenient. Quota sampling was used for gender only.

Telephone interviewers followed a computer-generated structured questionnaire. Questions were read directly from the computer and data were coded and entered 'live' as the interview progressed. Informed consent was considered to have been given when individuals agreed to complete the interview.

Including all three community surveys, 1,765 eligible contacts were made, with 1,269 agreeing to participate. This produced a response rate of 72%, which was remarkably consistent across all three sites.

Schizophrenia Society members

The Schizophrenia Society is an advocacy group that holds its main purpose to be the improvement of services for people with schizophrenia. The majority of its members are family members of individuals with the illness. This survey was conducted in one evening at a Society meeting. Questionnaires were handed out during a period of about 15-min duration that was set aside for the purpose of administration of the survey. Ninety-one people were present at the meeting, but only 40 questionnaires were returned. Not all present were Society members, however. A significant number were observers or officials of other organizations that served the society (e.g. social services, mental health services) and, thus, did not complete the survey instrument. Some individuals did not complete the questionnaire because another family member was present who did participate in the survey. Unfortunately, we were not able to ascertain the number of such individuals that were present at the meeting.

Medical students

The survey of medical students included virtually all third-year medical students at the University of Alberta. The paper and pencil version of the instrument was administered during lectures where attendance was required. All who were present completed the questionnaire.

Table 2 The distribution of age, sex, and education for each of the five studies

	Calgary	Drumheller	Edmonton	Schizophrenia Society	Medical students
Sex					
Male	49%	46%	49%	32%	51%
Female	51%	54%	51%	68%	49%
Age					
15–29	29%	28%	25%	16%	90%
30–59	54%	56%	55%	63%	10%
60 +	16%	16%	19%	21%	0%
Education					
Elementary	< 1%	< 1%	< 1%	0%	0%
Junior High	6%	10%	6%	3%	1.5%
High School	38%	50%	40%	28%	1.5%
College/Tech	25%	24%	22%	15%	0%
University	31%	15%	31%	55%	97%

Survey content

All surveys included the following content areas:

- Symptoms that characterize schizophrenia
- Relative seriousness of schizophrenia
- Social distance
- Perceived dangerousness
- Taxes and better services
- Medication and/or psychosocial Rx
- Causes of schizophrenia
- Acceptability of community residences
- Befriend/marry one with schizophrenia?
- Rx and dangerousness
- What should be done?

The term “schizophrenia” was used without definition throughout the survey on the assumption that it is now widely known.³ This differs from many other studies that have used scenarios, with or without the term “schizophrenia”, to depict symptoms of the disorder. This creates the possibility that results here may differ from these studies because of this difference in methodology. However, it is not clear that there was a great deal of consistency across such studies as many different scenarios were used. The results here should nonetheless be viewed with this caveat in mind.

There were some variations in wording across surveys, in part due to differences in administration (paper and pencil vs. telephone interview). These will be discussed at the appropriate location in the results section.

Results

Demographics

Table 2 shows sex, age, and education distributions for each of the five samples. Note that the three community samples are quite similar on all three attributes. On the other hand, the medical students show departures that are in keeping with their nature. In comparison to the community samples, medical students are young ($X^2 = 111.87$, $df = 2$, $p < 0.001$) and, of course, show relatively high education levels ($X^2 = 149.00$, $df = 4$, $p < 0.001$). An unexpected result was the relatively high education level of the Schizophrenia Society (55% with

a university degree; $X^2 = 17.74$, $df = 4$, $p < 0.01$). Perhaps this merely reflects an attribute that discriminates those who choose to become involved from those that do not.

Given the purpose of this paper, it was decided not to conduct sex, age, and education-level adjustments on the data. Medical students and members of schizophrenia advocacy groups are not different from the general public because of sampling error, and we did not wish to lose something essential to the group that might be spuriously confounded with a demographic factor. For example, since medical schools will not ever have an appreciable proportion of students over the age of 40, it is not really helpful to estimate how a student group would respond if it carried an age distribution similar to that of the general population.

Knowledge of mental illness

In the first instance, Albertans' views on mental illness are more sophisticated than would have been predicted from earlier studies in other jurisdictions. Respondents were asked to name the factor, or factors (up to three), that cause schizophrenia. As indicated in Table 3, the most endorsed “causes” of schizophrenia were constitutional factors (biochemical imbalance of the brain and genetics) and serious environmental stressors (trauma and stress). This is very much in line with current scientific findings. However, not too many years ago in Canada there would have been a much greater emphasis on the effects of family life and societal values, and a recent survey in Germany found that psychosocial factors predominated (Angermeyer and Matschinger 1996). Multi-causal beliefs have recently appeared in the United States, but “stress” still predominates over biological factors (Link et al. 1999). It is of importance to note that none of the respondent groups accorded a very high rating to parenting, social values, physical abuse, or poverty. It is notable that, although there were some differences in endorsement percentages across the three sites, the ranking of causes according to these figures produced nearly identical orderings for the three loca-

³ An earlier, unpublished study by the first author found that an Edmonton sample had a relatively sophisticated knowledge of the symptoms of mental illness.

Table 3 Perceived causes of schizophrenia: % of responses (rank)

	Brain chemistry	Genetics	Stress	Trauma	Up-bringing	Abuse	Social values	Poverty
Edmonton	56% (1)	34% (2)	17% (3)	9% (4)	5% (5)	2% (6)	1% (7)	1% (7)
Calgary	74% (1)	30% (2)	6% (3)	4% (4)	3% (5)	2% (6)	1% (7)	0% (8)
Drumheller	61% (1)	23% (2)	13% (3)	6% (4)	1% (5)	0% (8)	1% (5)	1% (5)

tions (see Table 3). Edmonton and Calgary showed identical rankings, and Drumheller differed only on those categories with endorsement rates of 1% or less.

■ Seriousness of mental illness

Albertans do think that mental illness is serious. The Edmonton Schizophrenia Society and medical student samples were asked to choose the most disabling condition from a number of serious conditions (loss of mind, blindness or deafness, being bedridden, loss of sex drive, disfigurement, and loss of limbs). The three groups showed highly consistent ratings across response categories, so group differences were not considered further. The overall result was then that loss of mind was by far the most frequently selected option at 74.9%, followed by bedridden at 15.3%, blindness at 8.4%, loss of legs or arms at 1%, and disfigurement at 0.4%. No one rated the loss of sex drive to be the most significant. Loss of mind, in fact, was more frequently selected than all of the remaining categories combined ($X^2 = 125.75$, $df = 1$, $p < 0.001$). These findings are reminiscent of those reported 30 years ago by Gussow and Tracy (1968) which indicated that people believe that the two most horrible things that can happen to them are leprosy and insanity.

■ Willingness to relate to the mentally ill

A major concern among those who advocate for the mentally ill is that the proposed construction of treatment centres in residential areas is often met by opposition from the community. This was addressed in a question about a potential “home” for a small number of residents in the community. Questionnaire items dealt with a variety of potential residents of these group homes for the purpose of comparison. A 5-point Likert scale, ranging from “extremely supportive” to “extremely negative” was used to record ratings. Fig. 1 shows that only a small proportion expressed opposition to a home for those with schizophrenia. If this is a matter of stigma, then it is a much greater issue for those with a criminal record, drug or alcohol abusers, or AIDS patients.

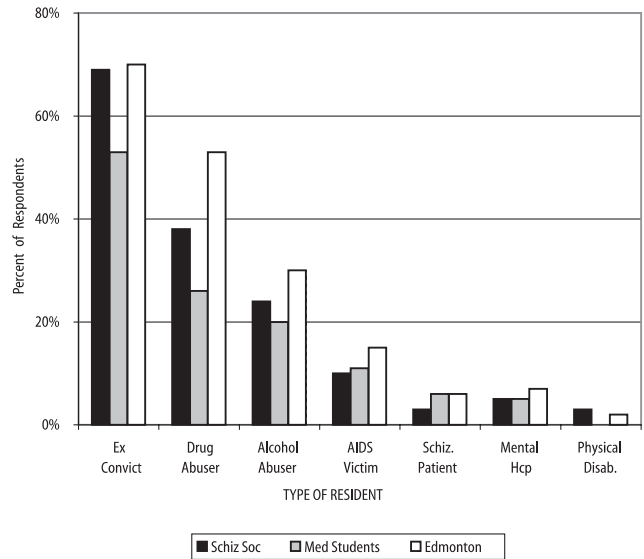


Fig. 1 Proportion of respondents in opposition to selected hypothetical “group homes”

Individuals with schizophrenia often report difficulty in their social lives. Yet, a large majority of respondents stated that they would befriend a person with schizophrenia. Possible responses were “definitely”, “probably”, “probably not”, and “definitely not”. Table 4 shows the percentage of respondents replying in the affirmative (“definitely” or “probably”). This proportion was high for all groups. However, the figures dropped dramatically when marriage was considered. Nonetheless, over 25% of the respondents from the general population stated that they could “definitely” or “probably” marry someone with schizophrenia. It is difficult to know exactly what this means in terms of stigma. Are the remaining 75% showing an unfair bias? Are the 25% who would marry putting on a “liberal” view that would not be matched by action? Some light is shed on this by the fact that a significantly smaller number of those from the Schizophrenia Society (10%) stated that they would marry someone with that mental illness ($X^2 = 5.45$, $df = 1$, $p < 0.02$). These individuals would know, better than anyone else, about the hardships in-

Table 4 Per cent who would befriend or marry someone with schizophrenia

	Calgary	Drumheller	Edmonton	Schizophrenia Society	Medical students
Befriend	83%	83%	83%	87%	79%
Marry	27%	26%	27%	10%	6%

herent in marriage to someone with a serious mental disorder.

There is a hint here that closer relationships with someone with schizophrenia may not always be wanted. Other items from the Calgary and Drumheller surveys that dealt with “social distance” support this view. Respondents were asked questions about “placing” a person with schizophrenia in either “your neighbourhood”, “your workplace”, or “your home”. As Fig.2 clearly shows, the closer to “home”, the more negative the attitude to that kind of arrangement. Applying Mantel’s (1963) test of a progressive increase to the data showed that this rising trend was statistically significant ($X^2 = 333.39$, $df = 1$, $p < 0.001$).

■ Perceived dangerousness

A significant component of stigma is public concern about the potential for violence by mentally ill individuals. That concern is held by Albertans; 20.6% of Calgary respondents and 26.8% of those from Drumheller felt that those with schizophrenia were either “often” or “frequently” violent. Those in the remaining surveys were asked to state whether those with mental illness were more dangerous than the average person. The results are shown in Fig. 3 where it can be seen that the potential for dangerousness is believed to be relatively low by members of the Schizophrenia Society (8%) in comparison to members of the general public (40%), with medical students falling between the two at 20% ($X^2 = 24.11$, $df = 2$, $p < 0.001$). Also depicted in Fig. 3 are the responses to the issue of whether or not treatment will reduce dangerousness. Clearly, although many respondents think that the mentally ill are dangerous, the prevailing view is that treatment has a significant positive effect. Furthermore, a large majority in all three groups endorsed this view (range = 80%–92%), with no statistically significant difference between them ($X^2 = 5.57$, $df = 2$, $N. S.$).

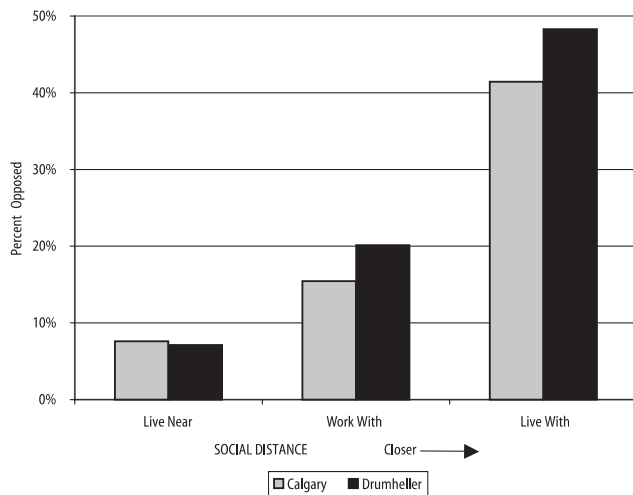


Fig. 2 Opposition to work or living arrangements for those with schizophrenia

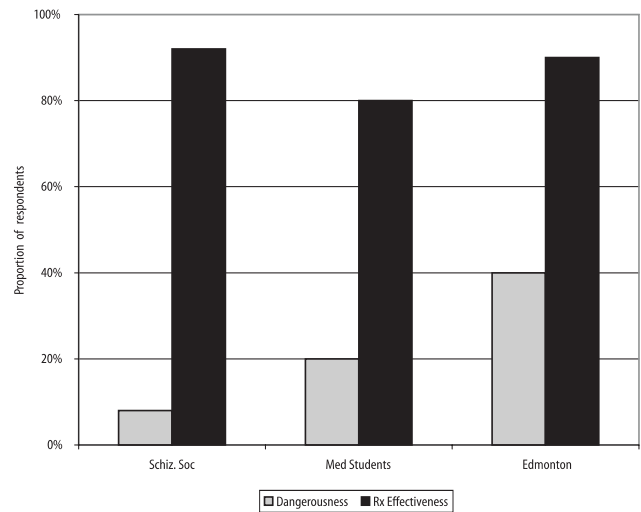


Fig. 3 Perceived dangerousness of the mentally ill and the effectiveness of its treatment

■ Looking ahead

As to future directions, Albertans displayed some interesting and forward-looking views. First of all, well over 50% would support increases in taxation in order to pay for better services for the mentally ill. The Alberta Population Research Laboratory in 1988 reported that 73% of respondents would support such taxation for discharged mental patients (Odynak et al. 1990), and our figures in support of increased taxation for better services for those with schizophrenia were 57% for the Edmonton sample and 61% for the medical students. Understandably, 92% of the Schizophrenia Society members supported increased taxation to pay for more services.

When asked what more should be done, respondents consistently supported a large cluster of activities. As any or all items could have been endorsed, the results represent an unprioritized list of approaches that Albertans feel would be suitable for additional future development (Table 5). Thus, support is likely for future allocation of resources for more programmes that emphasize either research, public education, input from family and friends, self-help, work and recreation opportunities, community treatment, and/or treatment group homes. Support for more emphasis on drug treatment is lower, and although there is more apparent variation across groups, there is no overlap with any of the categories above it, or with “mental hospitals” below. There is relatively little support for the construction of additional mental hospitals.

Although there was not universal support for an increased emphasis on drug interventions, it is important to note that the vast majority feels that the treatment of schizophrenia does, in fact, require a combination of both drug and psychosocial therapies. The figures were 100% for the Schizophrenia Society, 97% for the medical students, and 85% for the Edmonton general popu-

Table 5 Proportion in favour of selected additional approaches for dealing with mental illness

	Schizophrenia Society	Medical students	Edmonton
Research	95%	99%	98%
Public education	100%	97%	97%
Involvement of family/friends	87%	99%	98%
Work/recreation opportunities	97%	96%	97%
Community treatment	95%	97%	95%
Treatment group homes	87%	91%	90%
Self-help	80%	78%	95%
Drug treatment	66%	70%	49%
Mental hospitals	18%	27%	42%

lation sample. Clearly, there was very little support for either approach in isolation.

Conclusion

The data presented here suggest that Canadians (at least in the province of Alberta) are more knowledgeable and positive about mental illness than might have been thought. Schizophrenia was seen to be highly disabling, citizens reported that they were more comfortable with the mentally ill than with other identifiable "problem" groups, and the majority would support more programmes for the mentally ill (and would be willing to accept a tax increase to pay for them).

In spite of the positive signs noted above, stigma is not absent. As social distance shortens, acceptance decreases, and concern about dangerousness is clear. Furthermore, only about 25% of the general public reported that they would marry someone with schizophrenia. However, this was more than double the rate found for members of the Schizophrenia Society, who presumably would have greater knowledge on this matter. Thus, this may paradoxically represent a response bias among members of the general public toward a liberal attitude of acceptance that might not be valid. It is equally likely to be naive, but, in any case, this cannot be determined here.

Data such as these are ordinarily collected to help inform us about the level of stigma and to help us formulate interventions aimed at its reduction. The results presented here suggest that an attack on general attitudes may be wasteful. Members of the public in Alberta do not need to be told that schizophrenia is a debilitating disease, that it is no one's fault, and that treatment can be very helpful. Yet, many programmes are aimed at increasing awareness at just this level, raising the possibility that attention might be deflected away from the major problems facing those with a serious mental disorder – adequate housing, meaningful work and recreation, and rewarding social relationships.

An important public perception that appears to re-

main, however, is that persons with schizophrenia are dangerous. Our findings were mirrored by the recent finding that a strong stereotype for dangerousness has endured in the United States in spite of an increased ability on the part of the public to accurately identify symptoms of schizophrenia (Link et al. 1999). We have an interesting and perhaps important paradox here. The general public has a much higher level of concern about dangerousness than family members, but it is family members that are at the greatest risk for violence and murder (Taylor and Gunn 1999). Perhaps this is because the close proximity leads them to have to deal with, and perhaps frustrate, the family member with the illness. On the other hand, it has been noted by Chung et al. (1997) that close relatives of those with schizophrenia often do not recognize symptoms as indicative of mental illness. Horwitz (1982) has similarly concluded that bizarre behaviour is not as readily classified as mental illness by those with an intimate relationship with the person with schizophrenia. Regardless of the explanation, addressing specific issues such as dangerousness and the difficulties in communication between a person with schizophrenia and a person who does not have schizophrenia may be more fruitful than a campaign aimed at general attitudes.

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References

- Allbrecht G, Walker V, Levy J (1982) Social distance from the stigmatized: a test of two theories. *Soc Sci Med* 16: 1319–1327
- Angermeyer MC, Matschinger H (1994) Lay beliefs about schizophrenic disorder: the results of a population survey in Germany. *Acta Psychiatr Scand* 89 (suppl 382): 39–45
- Angermeyer MC, Matschinger H (1996) Relatives' beliefs about the causes of schizophrenia. *Acta Psychiatr Scand* 93 (3): 199–204
- Appleby L, Wessely S (1988) Public attitudes to mental illness: the influence of the Hungerford massacre. *Med Sci Law* 28: 291–294
- Barnes GE, Toews J (1983) Deinstitutionalization of chronic mental patients in the Canadian context. *Can Psychol* 24 (1): 2–36
- Baron RC, Piasecki JR (1981) The community versus community care. In: Budson R (ed) *New directions for mental health services: issues in community residential care*. Jossey-Bass, San Francisco, pp. 63–75
- Bland RC, Newman SC, Thompson AH, Dyck RJ (1998) Psychiatric disorders in the population and in prisoners. *Int J Law Psychiatry* 21: 273–279
- Chung KF, Chen EY, Lam LC, Chen RY, Chan CK (1997) How are psychotic symptoms perceived? A comparison between patients, relatives, and the general public. *Aust NZ J Psychiatry* 31 (5): 756–761
- Dawe M (1983) *Deinstitutionalization revisited*. Canadian Mental Health Association, Ottawa, Canada
- Dear MJ, Taylor SM (1982) *Not on our streets: community attitudes to mental health care*. Page Brothers, London, pp 98–118
- Eker D (1985) Effect of type of cause on attitudes toward mental illness and relationships between the attitudes. *Int J Soc Psychiatry* 31: 243–251

12. Estroff SE (1981) Psychiatric deinstitutionalization: a sociocultural analysis. *J Soc Issues* 37 (3): 116–132
13. Flaskerud JH, Kviz JK (1983) Rural attitudes toward and knowledge of mental illness and treatment resources. *Hosp Community Psychiatry* 34: 229–233
14. Greenley JR (1984) Social factors, mental illness, and psychiatric care. *Hosp Community Psychiatry* 35 (8): 813–818
15. Gronfein W (1985) Incentives and intentions in social policy: a comparison of the medicaid and community mental health program. *J Health Soc Behav* 26: 192–206
16. Gussow Z, Tracy GS (1968) Status, ideology, and adaptation to stigmatized illness: a study of leprosy. *Hum Org* 27: 316–325
17. Horwitz AV (1982) *The social control of mental illness*. Academic Press, New York
18. Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P (1997a) Public beliefs about causes and risk factors for depression and schizophrenia. *Soc Psychiatry Psychiatr Epid* 32 (3): 143–148
19. Jorm AF, Korten AE, Rodgers B, Pollitt P, Jacomb PA, Christensen H (1997b) Belief systems of the general public concerning the appropriate treatments for mental disorders. *Soc Psychiatry Psychiatr Epid* 32 (8): 468–473
20. Jorm AF, Korten AE, Jacomb PA, Christensen H, Henderson S (1999) Attitudes towards people with a mental disorder: a survey of the Australian public and health professionals. *Australian and New Zealand Journal of Psychiatry* 33: 77–83
21. Lamy RE (1966) Social consequences of mental illness. *J Consult Clin Psych* 30: 450–455
22. Link B, Cullen F (1983) Reconsidering the social rejection of ex-mental patients: levels of attitudinal response. *Am J Community Psychol* 11: 261–273
23. Link BG, Phelan JC, Bresnahan M, Stueve A, Pescosolido BA (1999) Public conceptions of mental illness: labels, causes, dangerousness, and social distance. *Am J Public Health* 89: 1328–1333
24. Levinson RM, York MZ (1974) The attributions of “dangerousness” in mental health evaluations. *J Health Soc Behav* 15(4): 328–334
25. Madianos MG, Economou M, Hatjiandreu M, Papageorgiou A, Rogakou E (1999) Changes in public attitudes toward mental illness in the Athens area (1979/1980–1994). *Acta Psychiatr Scand* 99 (1): 73–78
26. Mantel N (1963) Chi-square tests with one degree of freedom; extensions of the Mantel-Haenszel procedure. *J Am Stat Assoc* 58: 690–700
27. McPherson IG, Cocks FJ (1983) Attitudes toward mental illness: influence of data collection measures. *Soc Psychiatry* 18: 57–60
28. Norman RMG, Malla AK (1983) Adolescents’ attitude toward mental illness: relationship between components and sex differences. *Soc Psychiatry* 18: 57–60
29. Odynak D, Krahn H, Gartrell J, Kinzel C (1990) Public attitudes in Alberta toward the formerly mentally ill. Population Research Laboratory, University of Alberta, Edmonton, Canada
30. Pescosolido BA, Monahan J, Link BG, Stueve A, Kikuzawa S (1999) The public’s view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *Am J Public Health* 89 (9): 1339–1345
31. Rabkin JG, Muhlin G, Cohen PW (1984) What the neighbours think: community attitudes toward local psychiatric facilities. *Community Ment Health J* 20 (4): 304–312
32. Rosen A, Walter G, Casey D, Hocking B (2000) Combatting psychiatric stigma: an overview of contemporary initiatives. *Australas Psychiatry* 8 (1): 19–26.
33. Stuart H, Arboleda-Flórez J (2001) Community attitudes toward people with schizophrenia. *Can J Psychiatr* 46: 245–251
34. Taylor PJ, Gunn J (1999) Homicides by people with mental illness: myth and reality. *Brit J Psychiatry* 174: 9–14
35. Tefft B, Segall A, Trute B (1987) Neighbourhood response to community mental health facilities for the chronically mentally disabled. *Can J Community Ment Health* 6 (2): 37–44
36. Tringo J (1970) The hierarchy of preference toward disability groups. *J Spec Educ* 4: 295–306
37. Wilmoth GH, Silver S, Severy LJ (1987) Receptivity and planned change: Community attitudes and deinstitutionalization. *J Appl Psychol* 72: 138–145
38. Wistrom FE (1987) Role playing. *J Psychosoc Nurs* 25 (6): 21–24
39. Wolff G, Pathare S, Craig T, Leff J (1996) Community knowledge of mental illness and reaction to mentally ill people. *Brit J Psychiatry* 168(2): 191–198

