

Correlates of Family Contact with the Mental Health System: Allocation of a Scarce Resource

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This study explored correlates of informal and formal contact between clinicians and families of individuals with schizophrenia. We reanalyzed data from 902 individuals with schizophrenia from the Schizophrenia Patient Outcomes Research Team (PORT) client survey and a Veterans Affairs extension. Only 31% of families had any informal contact with a clinician and 7.8% attended a formal support program. Logistic regression showed that younger age, greater education, drug problems, receiving psychiatric inpatient and day treatment services, and participants' satisfaction with their family were all positively and significantly associated with informal contact. Receipt of formal family services was associated with intensity of social contact between participants and families. These results suggest that formal services for families of individuals with schizophrenia are not commonly available, and that informal pathways are the most common, although still limited, mechanism through which families of those patients who are receiving intensive services communicate with clinicians.

KEY WORDS: schizophrenia; families; communication; PORT; veterans affairs.

INTRODUCTION

Family members are often the primary caretakers for individuals with schizophrenia, and therefore critical participants in their mental health care (Solomon, 2000). One of the first attempts to understand families of those with schizophrenia was through research in expressed emotion, which demonstrated an association between negative family environments and psychiatric relapse (Bebbington & Kuipers, 1994; Kanter, Lamb, & Loeper, 1987). More recent family interventions have been developed to help families cope with the

understandable stress of supporting a relative with mental illness, to formally involve family members in treatment, and to provide information and support (Dixon et al., 2001; Solomon & Draine, 2001). Clinical trials of family interventions have consistently demonstrated positive outcomes, especially those programs of 9 months of length or longer (Pitschel-Waltz, Leucht, Bauml, Kissling, & Engel, 2001). Despite strong evidence for their success, family interventions are not widely available (Dixon et al., 1999), and dissemination efforts to increase the availability of family services have met with modest success (McFarlane, McNary, Dixon, Hornby, & Cimett, 2001).

Although greater availability and participation in formal family interventions is preferred, informal family contact with the treatment team, such as occasional conversations, is a necessary precursor to such involvement and may be valuable in itself. In a study of hospital recidivism, several measures of family involvement in treatment, including a single visit with their hospitalized family member, were associated with reduced risk of future rehospitalization (Olfson

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et al., 1999). Anecdotal evidence also suggests the benefits of informal contact. A survey of outpatient clinicians found that efforts to contact families involves a minimal time commitment, but is appreciated by the families, and is thought to be helpful (Dixon, Lucksted, Stewart, & Delahanty, 2000).

In a previous study, Dixon and colleagues (Dixon et al., 1999) examined administrative claims data and data from the Schizophrenia Patient Outcomes Research Team (PORT) to identify the percentage of individuals with schizophrenia who had received family services during a calendar year in each of three samples: Medicaid, Medicare, and the PORT field trial. Less than 1% of those in the Medicare sample had an outpatient paid claim for family therapy, 7.1% of the Medicaid sample had such a claim, and 8% of those in the field trial reported participation in family therapy. Of those surveyed as part of the field trial who had family contact, 30% reported having a family member who received informal contact, defined as information, advice, or support given to a family member from a clinician, at some point during the year. In all three samples, younger age was significantly and positively associated with receipt of family services. White race was significantly and positively associated with family services in two of the samples, and increased family contact and male gender were each significantly and positively associated with receipt of family services in one of the samples (Dixon et al., 1999).

It has been reported that access to scarce services, such as vocational rehabilitation, is decreased for those for whom service provision may be more challenging, such as those with severe psychiatric symptoms (Baron & Salzer, 2002), or who are closer to retirement age (Drebing et al., 2002). In this study, we extend our previous work and further explore and identify correlates of informal and more intensive family contact received by the families of individuals with schizophrenia to determine if a similar pattern emerges for family services. The study is based on the PORT survey of treatment provided to individuals with schizophrenia in Ohio and Georgia, but is expanded from previous reports (Dixon et al., 1999) through inclusion of data from a representative Veterans Affairs (VA) supplement. We carefully reviewed all variables from the PORT, and identified items that we hypothesized to be related to the receipt of family contact. Based on Dixon et al. (1999), we included client characteristics such as age, race, and gender, as well as data about the frequency and quality of contact between participants and families.

We also sought to determine if mental health status, such as symptom severity, substance use and receipt of mental health services, such as inpatient hospitalization and case management would be related to the receipt of family services. Additionally, participants received services from a representative sample of mental health systems in each state, providing a unique opportunity to examine differences in informal family contact between the public, private, and VA mental health systems.

METHODS

Participants

The data for the current study were derived from two sources: the Schizophrenia PORT survey, which examined usual care in a sample of people with schizophrenia in Ohio and Georgia (Lehman, Steinwachs, & the survey co-investigators of the PORT project, 1998); and a VA PORT extension, which used a parallel sampling strategy in order to provide an expanded VA-specific comparison group to the original study (Rosenheck, Desai, Steinwachs, & Lehman, 2000), for a total sample of 1038 participants. The sampling procedure was carefully designed to be random, and although not necessarily epidemiologically representative, to be representative of individuals with schizophrenia in these two states, considering population data on the state, community, provider and individual levels (Lehman et al., 1998). Comprehensive information on this detailed procedure is described elsewhere along with information on attrition (Lehman et al., 1998; Rosenheck et al., 2000). Participants were recruited from inpatient and community-based settings.

All participants were 18 years of age or older, legally competent, English speaking, had a working clinical diagnosis of schizophrenia, and provided written informed consent after a complete explanation of study procedures. A total of 902 individuals were included in the current analyses: 586 (65.0%) from the original PORT study, and 316 (35.0%) from the VA extension. Participants were excluded from the primary analyses due to missing data on the main dependent variables ($n = 38$) or because they reported that they had no contact with any family member in the year prior to the survey ($n = 136$) and thus not candidates to have had a family member involved in their treatment.

Independent Variables

Background Characteristics

Information on age, gender, ethnicity, education, income, and employment status were obtained by self-report via interview.

Clinical Status

Symptoms. Symptoms of mental illness were measured with a shortened version (30 items) of the Symptom Checklist 90 (Derogatis, 1994). All items were averaged to create a total score, ranging from 1 (*no symptoms*) to 5 (*extremely severe symptoms*). Cronbach's alpha in the entire PORT sample was .95, indicating excellent internal consistency.

Daily Activity. A series of questions asked about the frequency of 16 common daily activities (e.g., watching television, preparing a meal, going to a park). The number of positive responses to these questions was summed, to create a measure of participation in activities in the prior week, which thus ranges from 0 to 16.

Drug/Alcohol Use. The 4-item CAGE (Ewing, 1984), and an analogue to the CAGE were used as dichotomous measures of current alcohol and drug problems. Each CAGE item is rated as absent or present, and thus scores for each scale range from a low of 0 to a high of 4. We used the standard cutoff of 2 or higher to indicate presence of current problems (Vanable, King, & de Wit, 2000).

Service Use

The amount of psychiatric inpatient services, day treatment, and number of visits with psychiatrists, case managers, and therapists was obtained by self-report via interview.

Family Involvement

There are three measures representing family involvement. The first, intensity of family contact, is a measure of the number of in-person or telephone interactions between the participant and the most frequently contacted family member. This is rated on a 5-point scale of increasing intensity, with

1 representing no contact in the prior year and 5 representing at least daily contact. Those with scores of 2 or higher were retained for the primary analyses.

The second is a composite measure of family perceptions and satisfaction. First, we examined the correlation between two separate family-related measures: the mean of the four items from the family section of the Lehman Quality of Life Questionnaire (Lehman, 1983), and the mean of eight items measuring perceptions of family interactions (e.g., "you feel your opinions and ideas count in your family," "you feel your family accepts you the way you are") created for the PORT field trial. The correlation between these two means was high ($r = .68, p < .0001$) as was the Cronbach's alpha of the 12 items (.77) indicating that these items could be meaningfully combined into one measure. These items were then converted to z -scores and averaged to create a composite family satisfaction measure.

The third family measure is a dichotomous measure indicating if the participant lived with parents, or did not live with parents, at the time of the interview.

Intercorrelations between the three family measures were small in magnitude (r 's = .02, .04, and .19), indicating that each measures a distinct domain.

Service System

Participants were questioned about the service system in which they received their mental health services: either public, private, or through the Veterans Affairs health service systems.

Dependent Variables

The first dependent variable is a dichotomous measure of informal family contact with clinical staff, based on a single question in the PORT survey. Participants were asked, "During the past year, did anyone in your family receive information about your illness or your treatment or advice or support for families about how to be helpful to you?" The second dependent variable is a dichotomous measure of receipt of more formal family services, based on the answer to the survey question, "Did your family member attend any kind of educational or support program about schizophrenia and treatment?"

Data Analysis

First, data from participants with missing values for the dependent variable (informal family contact with a clinician) were excluded from the primary analyses. Then, we calculated the number of missing values for the independent variables. For the 14 variables with fewer than 10% missing variables, each missing data point was replaced with a value imputed by linear regression (Little, 1992). We also replaced values for one variable with greater than 10% missing values using the same method (total income in the past month).

t-test and chi-square analyses were used to examine bivariate differences between those selected for analyses (any family contact) versus those not selected (no family contact). Bivariate comparisons were also used to examine differences between those participants with family members who had received information from a clinician and those who had not.

For our primary analyses, two logistic regression analyses were conducted with each of the two dependent variables and all independent variables. In the first regression model, independent variables were regressed onto the measure of informal family contact with a clinician, among those participants who had any contact with their families in the prior year. With a sample size of 902, there was sufficient power to detect a significant odds ratio of 1.55 or greater. To examine the proportion of variance explained by groups of independent variables (background characteristics, clinical status, service use, family involvement, and type of service system), we calculated pseudo R^2 statistics (Cameron & Windmeijer, 1973; Kleinbaum, Kupper, & Muller, 1988; Leslie & Rosenheck, 2001) as follows: logistic regression analyses were conducted for five additional models which were identical to the main model, but in each, one different group of independent variables was removed. Then, the Pseudo R^2 for each of these five models was subtracted from the Pseudo R^2 for the total model, to provide five Pseudo R^2 change scores. The five Pseudo R^2 change scores were then divided by the total Pseudo R^2 as a measure of the proportion of the total variance explained by each group of independent variables.

In the second model, independent variables were used to predict the measure of formal family education and support among those participants who had a family member who had informal contact with a clinician.

RESULTS

Bivariate Analyses

To determine if our sample was similar to the larger PORT sample, we compared those participants selected for the primary analyses (participants who had social contact with their family in the year prior to the interview; $n = 902$, 87%) and those not selected (participants with no family contact, $n = 136$, 13%). There were few differences. Participants who were in contact with family members participated in more activities ($M = 7.78$, $SD = 2.92$) than those not in contact with family ($M = 6.63$, $SD = 2.92$, $t(166) = -4.35$, $p < .0001$). Those who had contact with family also had greater psychiatric symptom severity ($M = 2.16$, $SD = .85$) and were younger ($M = 45.14$, $SD = 12.42$) than those without family contact (symptoms: $M = 1.97$, $SD = .77$, $t(1036) = -2.50$, $p = .01$; age: $M = 47.91$, $SD = 13.18$, $t(1034) = 2.40$, $p = .02$). Additionally, those with family contact were more likely to have seen a psychiatrist (84.7%) and seen a psychotherapist (27.9%) than those who did not have family contact (psychiatrist: 70.6%, $\chi^2(1) = 16.57$, $p < .0001$; psychotherapist: 19.9%, $\chi^2(1) = 3.93$, $p = .05$).

Only 31% of families of participants who were in social contact with their family had informal contact with a clinician (Table 1). There were several differences between those whose family members had informal contact with a clinician ($n = 279$) and those family members who had not ($n = 623$). On bivariate analyses, those who had a family member informally involved in their treatment were more likely than those without family involvement to have alcohol and drug problems, a psychiatric hospitalization in the past year, and to have participated in more outpatient mental health services, including treatment at a day program, or seeing a case manager or therapist. Those receiving mental health services from either the private or public system were also more likely to have a family member who had informal contact with a clinician than those in the VA system. Additionally, those with family involvement were younger, more educated, earned less money, were in more frequent contact with their family, and participated in more activities than those whose families did not receive information.

Of the 279 participants whose families had informal contact with a clinician, 70 (25.5%, 7.8% of total sample) reported that a family member received

Table 1. Bivariate Comparisons Within Those with Any Family Contact (*N* = 902)

Variable	Family did not receive information (<i>n</i> = 623) <i>n</i> (%)	Family received information (<i>n</i> = 279) <i>n</i> (%)	Total (<i>N</i> = 902)	Test of significance
Gender				
Male	462 (74.2%)	189 (67.7%)	651 (72.2%)	$\chi^2(1) = 3.95$ <i>p</i> = .05
Female	161 (25.8%)	90 (32.3%)	251 (27.8%)	
Ethnicity (<i>n</i> = 900)				
White	353 (56.8%)	162 (58.1%)	515 (57.2%)	$\chi^2(2) = .12$ n.s.
Black	241 (38.8%)	105 (37.6%)	346 (38.4%)	
Other	27 (4.4%)	12 (4.3%)	39 (4.3%)	
Marital status				
Ever married	348 (55.9%)	133 (47.6%)	481 (53.3%)	$\chi^2(1) = 5.19$ <i>p</i> = .02
Never married	275 (44.1%)	146 (52.3%)	421 (46.7%)	
Current alcohol problems (CAGE)				
No	563 (90.3%)	236 (84.6%)	799 (88.6%)	$\chi^2(1) = 6.37$ <i>p</i> = .01
Yes	60 (9.6%)	43 (15.4%)	103 (11.4%)	
Current drug problems (CAGE)				
No	567 (91.0%)	228 (81.7%)	795 (88.1%)	$\chi^2(1) = 15.91$ <i>p</i> < .0001
Yes	56 (9.0%)	51 (18.3%)	107 (11.9%)	
Received mental health services from				
VA	247 (39.7%)	69 (24.7%)	316 (35.0%)	$\chi^2(2) = 20.93$ <i>p</i> < .0001
Public system	329 (52.8%)	175 (62.8%)	504 (55.9%)	
Private system	47 (7.54%)	35 (12.5%)	82 (9.1%)	
Psychiatric hospitalization in the past year				
No	328 (52.7%)	106 (38.0%)	434 (48.1%)	$\chi^2(1) = 14.61$ <i>p</i> < .0001
Yes	295 (47.4%)	173 (62.0%)	468 (51.9%)	
Attended day program in the past year				
No	507 (81.4%)	194 (69.5%)	701 (77.7%)	$\chi^2(1) = 15.62$ <i>p</i> < .0001
Yes	116 (18.6%)	85 (30.5%)	201 (22.3%)	
Saw a psychiatrist in the past year				
No	104 (16.7%)	34 (12.2%)	138 (15.3%)	$\chi^2(1) = 3.02$ n.s.
Yes	519 (83.3%)	245 (87.8%)	764 (84.7%)	
Had a case manager in the past year				
No	294 (47.2%)	108 (38.7%)	402 (44.6%)	$\chi^2(1) = 5.61$ <i>p</i> = .02
Yes	329 (52.8%)	171 (61.3%)	500 (55.4%)	
Had a therapist in the past year				
No	472 (75.8%)	178 (63.8%)	650 (72.1%)	$\chi^2(1) = 13.70$ <i>p</i> = .0002
Yes	151 (24.2%)	101 (36.2%)	252 (27.9%)	
Living with parents				
No	536 (86.0%)	238 (85.3%)	774 (85.8%)	$\chi^2(1) = .08$ n.s.
Yes	87 (14.0%)	41 (14.7%)	128 (14.2%)	
Age (<i>M, SD</i>) (<i>n</i> = 901)	46.88 (12.56)	41.27 (11.19)	45.14 (12.42)	<i>t</i> (596) = 6.69, <i>p</i> < .0001
Number of children (<i>M, SD</i>) (<i>n</i> = 895)	1.20 (1.79)	1.32 (1.90)	1.24 (1.83)	<i>t</i> (893) = -.86, n.s.
Number years school (<i>M, SD</i>) (<i>n</i> = 900)	11.65 (2.46)	12.36 (2.33)	11.87 (2.44)	<i>t</i> (898) = -4.06, <i>p</i> < .0001
Total income in past year (<i>M, SD</i>) (<i>n</i> = 787)	\$1028.60 (\$871.46)	\$890.34 (\$717.78)	\$986.05 (\$829.26)	<i>t</i> (554) = 2.33, <i>p</i> = .02
Symptom severity—SCL Total (<i>M, SD</i>)	2.13 (.87)	2.24 (.82)	2.16 (.85)	<i>t</i> (900) = -1.82, n.s.
Intensity of family contact	4.02 (1.02)	4.19 (.96)	4.07 (1.00)	<i>t</i> (879) = -2.35, <i>p</i> = .02
Number of activities in a typical day (<i>M, SD</i>)	7.65 (2.53)	8.04 (2.41)	7.77 (2.50)	<i>t</i> (900) = -2.20, <i>p</i> = .03

formal family support or education at least once in the prior year.

Logistic Regression Models

The first model identifies correlates with informal family contact (Table 2). Two participant

background characteristics were positively and significantly associated with informal family contact with a clinician: younger age (*OR* = .98, *CI* = .96 – .99) and greater education (*OR* = 1.11, *CI* = 1.04 – 1.19). Although presence of drug problems was positively and significantly associated with informal family contact (*OR* = .1.73, *CI* = 1.08 – 2.75), alcohol problems were not significantly related. Receipt of

Table 2. Logistic Regression Among Those with Any Family Contact ($N = 902$)—Main Effects

Variable	Family received information from a mental health professional	
	Odds ratio	95% confidence interval
Background characteristics		
Female	1.31	.92–1.86
Age	.98	.96–.99
Never married (versus ever married)	1.05	.75–1.47
Black or other ethnicity (versus white)	.80	.59–1.11
Average income per month (prior year, in hundreds)	1.00	1.00–1.00
Education (years)	1.11	1.04–1.19
Number of children	1.03	.95–1.12
Clinical status		
Symptom severity (SCL total)	1.07	.88–1.30
Activity level	.80	.28–2.29
Alcohol problems (CAGE)	1.40	.87–2.24
Drug problems (CAGE)	1.73	1.08–2.75
Services received		
Inpatient prior year	1.76	1.28–2.43
Day treatment prior year	1.47	1.02–2.11
Seen a psychiatrist prior year	.97	.61–1.55
Seen a case manager/social worker prior year	1.08	.78–1.51
Seen a therapist prior year	1.29	.92–1.81
Family involvement		
Intensity of family contact	1.10	.94–1.30
Composite family satisfaction	1.68	1.21–2.33
Living with parents (no/yes)	.99	.64–1.53
Service system		
Mental health services (reference: VA)		
Public	1.68	1.16–2.42
Private	1.83	1.04–3.22

two mental health services were positively and significantly associated with informal family contact with a clinician: having been a psychiatric inpatient ($OR = 1.76$, $CI = 1.28 - 2.43$) or having participated in day treatment ($OR = 1.47$, $CI = 1.02 - 2.11$) in the year prior to the interview. Participant's level of satisfaction with his/her family relationships (composite score) was also positively and significantly associated with informal family contact with a clinician ($OR = 1.68$, $CI = 1.21 - 2.33$). Compared to participants receiving VA mental health care, those in the public mental health system ($OR = 1.68$, $CI = 1.16 - 2.42$) and private mental health system ($OR = 1.83$, $CI = 1.04 - 3.22$) were more likely to have informal family contact with a clinician.

The Pseudo R^2 for the overall model was .1008, indicating that the model explains 10.1% of the variance. The percent of the total explained variance for the groups of independent variables was: 26.6% for background characteristics (Pseudo $R^2 = .0740$), 8.7% for clinical status (Pseudo $R^2 = .0921$), 18.4% for service use (Pseudo $R^2 = .0891$), 11.7% for family contact (Pseudo $R^2 = .0891$), and 7.8% for type of service system (Pseudo $R^2 = .0930$).

The second logistic regression examined correlates of receipt of formal family education and support among those who reported informal contact with a clinician ($n = 279$), using the same set of independent variables. There were two significant main effects: intensity of family social contact was significantly and positively associated with receipt of formal family education and support ($OR = 1.58$, $CI = 1.10 - 2.26$) as was living with a parent ($OR = 2.59$, $CI = 1.15 - 5.81$).

DISCUSSION

This survey of individuals with schizophrenia combined with results of other studies suggests that a relatively small percentage of their families have contact with the mental health system that provides care to them. In our sample, 87% of participants in the PORT and VA PORT extension had communicated with at least one family member in the year prior to the interview. Within this group, only 31% of family members had any informal contact with a mental health clinician, and of these, only 26% (8% of all participants with family contact) attended formal family treatment, suggesting that contact between families and treatment teams is uncommon. These percentages should be interpreted with caution. Although both of the questions upon which these results are based were asked during the part of the interview designed to assess receipt of formal clinical services, they are open to alternative interpretations, such as having contact with family self-help organizations such as the National Alliance for the Mentally Ill. Thus, rates of family contact with clinicians in this study should be considered to ceilings, and in fact, may be even lower.

Informal contact with a clinician by a participant's family member was associated with increased client participation in more intensive psychiatric services and greater severity of drug problems. Frustration or burnout by family caretakers may precipitate participation in more structured services, such

as psychiatric hospitalization and day treatment. Although symptom severity was not associated with informal family clinical contact in the bivariate or the multivariate analyses, severity of comorbid drug problems, a possible source of greater functional impairment and family conflict, was associated with having a family member informally involved in treatment. Dixon and colleagues similarly reported that individuals with severe mental illness and a substance abuse disorder expressed a greater need for family therapy than those with severe mental illness alone (Dixon, McNary, & Lehman, 1995). However, because directionality cannot be determined from these analyses, an alternative interpretation is that clinicians in intensive psychiatric services are more likely to involve family members in treatment than their counterparts in more traditional outpatient settings. Further, the more treatment received by the client, the greater the opportunity for such family involvement.

Younger age and greater education were also both significantly related to informal family contact with clinicians. Younger individuals are more likely to be dependent on their parents, who have had fewer years of interactions with and/or responsibility for their child with schizophrenia. If higher levels of emotional exhaustion and burnout are related to the number of years of exposure to the illness, and burnout is inversely related to availability to participate in family services, this may also explain the greater family involvement with clinicians by families of younger clients. Clinicians may also be more likely to contact families of younger clients, who may be newer to the mental health system and are not as engaged in treatment.

Participants receiving mental health services from either the private or public mental health service systems were more likely than those served by VA to have family members informally involved with their care. The VA is traditionally focused on services for veterans only and lacks a broad commitment to community service delivery and programmatic mandates or incentives to provide services to families. However, with the increased emphasis on Evidence-Based Practices (Dixon et al., 2001; Drake et al., 2001) some VA Medical Centers are beginning to implement family services (e.g., Sherman, 2003). However, the low rates of family contact observed here suggest that all three service systems would benefit from an increased focus on family involvement.

Our model explained approximately 10.1% of the variance in informal family contact, a modest pro-

portion. Background characteristics explained the greatest proportion of this variance (26.6%), followed by service use (18.4%). Clinical status (8.7%), family involvement (11.7%), and type of service system (7.8%) accounted for a smaller amount of all explained variance, suggesting that the main forces for the provision of family treatment are basic socio-demographics and participation in intensive psychiatric services.

Within those who had informal family contact with the service system, receipt of formal education and support was significantly and positively associated with two of the three family measures—the number of social contacts between participants and family members, and if a participant was living with a parent. This suggests that when participants had more contact and communication with their family, they were more likely to be involved in formal family services, either by their own initiation, or by invitation from a clinician. Interestingly, neither of these family measures was significantly associated with receipt of informal contact with families.

There are several limitations to this study. We do not have information about the quality and substance of the contact between families and clinical staff, and so what we have termed informal family contact may range from a brief telephone call to an intensive face-to-face meeting. Similarly, as stated above, our measure of informal family contact with a clinician was somewhat vague, and may have been interpreted by participants to include contact between family members and family advocacy groups and other non-clinical sources.

All information about family contact was collected via participant self-report. Participants and family members may disagree on the amount and quality of social contact between them, and participants may not have known about all contacts between their families and their clinicians. We were also unable to capture circumstances in which families attempted to get services but found them unavailable. Additionally, although our sample included a substantial number of people of color, very few other ethnic minority groups were represented, and thus our results may not be generalizable to individuals from other ethnic backgrounds.

Our results suggest that there may be effective informal pathways for communication with family members. However, future investigations would benefit from understanding how these communication pathways are formed, and which pathways are most effective. Additionally, investigations of family

interventions are incomplete without obtaining the perspective of the families. Several studies that will help to illuminate these relationships are currently in progress or are planned, including an examination of family treatment preferences of multiple stakeholders (consumers, families, and providers) in the VA system, an evaluation of a web-based family psychoeducation program, and a study of procedures to minimize barriers to communication with families resulting from confidentiality requirements.

CONCLUSIONS

In a system where resources to provide formal family support are limited, essential communications may flow through informal pathways, such as telephone contacts and occasional meetings between family members and clinicians. These informal networks may provide a foundation upon which families in need of more intensive services can be identified. Our results suggest that currently this informal network may be reaching those with the greatest need. However, due to the small percentage of families of individuals with schizophrenia who have any contact with families, and the even smaller number receiving family psychoeducation and support services, it is unlikely that these services are available to all who might benefit from them. As such, systematic efforts to increase contact with families are sorely needed.

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