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ORIGINAL PAPER

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Attitudes and roles of general practitioners in the treatment of schizophrenia compared with community mental health staff and patients

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Abstract *Background* Most general practitioners (GPs) are currently treating a small number of patients with schizophrenia; however, little is known about GPs' experiences in this area. This paper examines the attitudes and roles of Australian GPs in the treatment of schizophrenia and their relationships with specialist services. *Methods* A total of 192 GPs' ratings of possible sources and forms of help for patients with schizophrenia were compared with the ratings of 50 mental health services (MHS) staff and 129 patients. Comparisons within the health professionals were also made in relation to diagnostic and treatment confidence, perceived roles, and typical problems encountered. *Results* Perceived helpfulness ratings were reasonably consistent across groups. However, patients tended to rank close family members as more helpful. GPs and MHS staff reported complementary roles, with a shared responsibility for early detection and relapse prevention. Treatment compliance, and communication and accessibility to specialist agencies were identified as major problems. *Conclusions* GPs fulfil a valuable role in the treatment of schizophrenia, which could be enhanced through improved training. Mental health services need to work more effectively with GPs in treating schizophrenia and acknowledge their complementary roles.

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Introduction

A shift from hospital to community-based psychiatric services has highlighted the potential role of the General Practitioner (GP) in the management of patients with schizophrenia, either alone or in association with specialist mental health services (Falloon and Fadden 1993). Three-quarters of Australian GPs are actively engaged in treating patients with schizophrenia, the typical GP managing three such patients, two conjointly with specialist services and one without specialist support (Lewin and Carr 1998). Although schizophrenia is of relatively low prevalence, these patients can make heavy demands on GPs' resources, and their management can challenge GPs' attitudes, knowledge and skills.

GPs are able to provide a personalised, low-stigma and cost-effective environment that takes into account the patient's concomitant physical conditions, and social and family circumstances (Copolov 1998). Guidelines for managing patients with schizophrenia in general practice emphasise early detection of psychosis, minimising delays in obtaining treatment, monitoring the patient's condition and adherence to treatment, and prompt intervention at times of relapse or psychosocial crises (Nazareth and King 1992; Falloon and Fadden 1993; King and Nazareth 1996; Burns and Kendrick 1997; Carr 1997a, b; Keks et al. 1997; Copolov 1998).

However, some GPs are uncomfortable taking a role in the treatment of schizophrenia. Two United Kingdom studies compared patients with and without a diagnosis of schizophrenia and found that the schizophrenia patients were more likely to encounter reluctance by GPs to participate in their care and be referred to a hospital specialist (Lawrie et al. 1996, 1998).

The present study was designed to examine the attitudes and experiences of Australian GPs in the treatment of schizophrenia. In particular, it was intended to

ascertain: their beliefs about possible sources and forms of help for patients with schizophrenia; their confidence in diagnosing and treating people with schizophrenia; the problems GPs encounter in managing patients with schizophrenia; those aspects of GP contacts with specialist mental health services which they consider helpful and unhelpful; and their perceptions of their roles in the management of patients with schizophrenia, especially in relation to shared care approaches. To provide reference points for documenting and evaluating GPs' beliefs and perceptions, where appropriate, they were contrasted with those of community mental health services staff and patients with schizophrenia, in a similar manner to other recent studies (e. g. Jorm et al. 1997a; Burns et al. 2000; Caldwell and Jorm 2000).

Subjects and methods

Subjects

All GPs in the Hunter region of New South Wales (N = 493) were approached to assist with recruitment of schizophrenia patients in their care who were over the age of 17 years. There was an 88.4 % (N = 436) response rate from the GPs; 26.6 % (N = 131) reported that they were not treating any patients with schizophrenia; 25.2 % (N = 124) had such patients but refused to help recruit for the study; and 3.9 % (N = 19) replied that the schizophrenia patients they were treating were unsuitable for interview. This left 32.9 % (N = 162) who agreed to help recruit patients for the study. However, patient recruitment rates from this source were modest, due mainly to the indirect methods by which they could be contacted (i. e. through patient-initiated responses to our GP-distributed 'invitation letter'). Accordingly, an additional sample of 59 patients from the same geographical area was recruited from a volunteer schizophrenia research register (Loughland et al. 2001) and all cases from this source gave permission for their GPs to be contacted.

While the majority of GP practices provided basic information about the number of patients that they were currently treating (often through follow-up telephone calls), only 38.9 % of GPs (N = 192) completed the questionnaires of relevance to this paper; one-quarter (25.1 %) of these GPs were not currently treating patients with schizophrenia. Only four of these GPs reported that they had never treated a person with schizophrenia. Across the 192 GPs participating in this component of the study, the mean number of patients with schizophrenia per GP was 3.08 (SD = 3.89), which rose to 4.11 (SD = 3.99) excluding those without current schizophrenia patients. On average, 28.8 % of these patients were being treated without ongoing support from specialist services.

In total, 154 patients were interviewed (95 GP-recruited and 59 register-recruited), of whom 131 had a confirmed ICD-10 diagnosis of schizophrenia or schizo-affective disorder, using a structured diagnostic interview (Jablensky et al. 2000). Relevant questionnaires were completed by 129 of the patients with schizophrenia (N = 125) or schizo-affective disorder (N = 4).

Local community Mental Health Service (MHS) staff were also asked to participate in the study for the purpose of comparison with GPs. Completed questionnaires were returned by 50 (66.7 %) of the 75 staff who received them. The distribution of professional disciplines within this group was: mental health nurses 54 % (N = 27); medical staff 28 % (N = 14); and allied health staff 18 % (N = 9).

Measures

Each participating GP was administered two questionnaires. First, a general 'Attitudes and Needs' questionnaire collected the GPs' demographic details and asked them to rate the perceived helpfulness, on 7-point Likert scales ['Not at all helpful' (0) to 'Very helpful' (6)], of (i) selected groups of people and (ii) treatments and activities which could assist "people with schizophrenia"; similar 'groups of people' have been identified in other studies (e. g. Jorm et al. 1997a; Caldwell and Jorm 2000). This questionnaire also asked the GPs, using similar scales, to rate their diagnostic and treatment confidence in relation to schizophrenia, and their likelihood of referring such patients to a mental health specialist. The last half of the questionnaire asked GPs to list the main problems they had encountered in "treating patients with schizophrenia", the forms of assistance from specialist services that had been helpful or unhelpful, what they regarded as the GP's role in treating schizophrenia and their views on 'shared care' approaches for treatment of this disorder. The second instrument, a specific 'Needs' questionnaire, repeated the last half of the first questionnaire, but was completed for each identified patient with schizophrenia under the GP's care; analysis of this questionnaire is not reported here.

In order to compare the GPs' attitudes and roles with those of community MHS staff, the general 'Attitudes and Needs' questionnaire was administered to regional MHS staff, but with alternative open-ended questions about what they regarded as the "mental health team's role in treating patients with schizophrenia". The views of the participating patients with schizophrenia were also obtained by asking them to complete the general 'Attitudes and Needs' questionnaire, excluding the section on diagnostic and treatment confidence and the last half of the questionnaire. These patients also completed a semi-structured diagnostic interview, which facilitated psychosocial, disability and 12-month service utilisation comparisons with other Australian groups of schizophrenia patients recruited from public mental health services (see Carr et al. 2002).

Data analysis

Group comparisons were undertaken using χ^2 analysis for the categorical variables (with Fisher's exact tests as required) and one-way analysis of variance (ANOVA) for the continuous dependent variables, with Scheffé follow-up comparisons. As a partial control for the number of statistical tests, the threshold for significance was set at $P < 0.01$. Preliminary analyses revealed no significant differences in perceived helpfulness ratings between the GP-recruited (N = 81) and register-recruited (N = 48) patients, justifying their aggregation in the current paper. However, we do know from elsewhere (Loughland et al. *submitted*) that register-recruited patients tend to have higher education levels and are more likely to be married.

Results

Perceived helpfulness analyses

As shown in Table 1, there were similar gender distributions across the groups but the GPs were significantly older than the community MHS staff and the patients. Table 1 also compares the three groups on their ratings of the perceived helpfulness of 12 groups of people and five treatments and activities with the potential to assist schizophrenia patients. Generally, health professionals rated the selected groups of people and the treatments and activities as more helpful than did the patient group, as evidenced by the pattern of significance between group differences in Table 1. However, for the 'groups of people' ratings, there was good rank order agreement between GPs and both community MHS staff and patients (Spearman $\rho = 0.92$ and 0.87, respectively), but less robust agreement between MHS staff and patients (Spearman $\rho = 0.68$). GPs and mental health staff ranked psychiatrists and mental health nurses as the

Table 1 Selected comparisons between General Practitioners, clinical staff from community Mental Health Services (MHS), and patients with schizophrenia or schizo-affective disorder

Sample characteristics and perceived helpfulness ratings (range 0–6)	General Practitioners (G)	Community MHS staff (M)	Patients with schizophrenia or schizo-affective disorder (S)	Pattern of significant differences between groups[a]	
Sample size	192	50	129		
Mean age (SD)	46.37 (10.20)	40.87 (7.77)	38.66 (11.19)	$F_{(2, 364)} = 22.72$**	G > M,S
% Female	39.8	55.1	32.6	$\chi^2_{(2)} = 7.61$, *ns*	
Mean years of experience in mental health (SD)	16.59 (9.60)	13.64 (9.70)	N/A	$F_{(1, 238)} = 3.74$, *ns*	
Mean perceived helpfulness of selected *groups* for people with schizophrenia: (with rankings)					
Psychiatrists	5.31 (1)	5.06 (2)	4.19 (3)	$F_{(2, 367)} = 25.28$**	G,M > S
Mental health nurses	4.92 (2)	5.24 (1)	3.81 (5)	$F_{(2, 365)} = 32.26$**	G,M > S
General Practitioners	4.78 (3)	4.88 (4)	4.45 (2)	$F_{(2, 367)} = 3.92$, *ns*	
Close family members	4.49 (4)	4.78 (6)	4.57 (1)	$F_{(2, 367)} = 0.85$, *ns*	
Psychologists	4.37 (5)	4.96 (3)	3.46 (6)	$F_{(2, 365)} = 21.36$**	G,M > S
Close friends	4.32 (6)	4.74 (7)	3.83 (4)	$F_{(2, 366)} = 7.15$**	M > S
Social workers	4.29 (7)	4.82 (5)	3.02 (9)	$F_{(2, 366)} = 37.25$**	G,M > S
Counsellors	3.84 (8)	3.88 (10)	3.10 (8)	$F_{(2, 361)} = 9.25$**	G > S
Other people with schizophrenia	3.21 (9)	4.10 (9)	3.23 (7)	$F_{(2, 367)} = 6.08$*	G,S < M
Occupational therapists	3.12 (10)	4.64 (8)	2.67 (10)	$F_{(2, 364)} = 23.37$**	G,S < M
Clergy	2.91 (11)	3.06 (11)	2.34 (11)	$F_{(2, 367)} = 4.86$*[b]	
Naturopaths or herbalists	1.35 (12)	2.24 (12)	1.68 (12)	$F_{(2, 361)} = 7.04$**	G < M
Mean perceived helpfulness of selected *treatments and activities* for people with schizophrenia: (with rankings)					
Medication-based treatments	5.32 (1)	5.14 (1)	4.75 (1)	$F_{(2, 366)} = 9.64$**	G > S
Regular employment	4.42 (2)	4.62 (5)	3.34 (5)	$F_{(2, 366)} = 21.74$**	G,M > S
Social activities with family and friends	4.39 (3)	4.94 (3)	4.52 (2)	$F_{(2, 366)} = 3.27$, *ns*	
Recreational activities	4.28 (4)	5.02 (2)	4.01 (3)	$F_{(2, 366)} = 9.42$**	G,S < M
Psychological treatments	3.75 (5)	4.72 (4)	3.54 (4)	$F_{(2, 363)} = 10.29$**	G,S < M

[a] Based on overall chi-square tests (categorical variables) or one-way analyses of variance (continuous variables), with pairwise (Scheffé) follow-up comparisons: *ns* non-significant; * $P < 0.01$; ** $P < 0.001$; *N/A* not applicable

[b] All follow-up comparisons were non-significant

most helpful, whereas the patients ranked these two groups below close family members and GPs in order of helpfulness. In relative terms, MHS staff ranked close family members quite a bit lower than the patient group in terms of perceived helpfulness.

There was a high rank order agreement between community MHS staff and patients on the perceived helpfulness of various treatments and activities (Spearman $\rho = 0.90$), but less agreement between GPs and both MHS staff and patients (Spearman $\rho = 0.30$ and 0.40, respectively). This was due to the relatively high ranking given by GPs to regular employment compared to the patients and MHS staff. Indeed, patients ranked regular employment not only as the least helpful of the alternatives offered, but also rated it as significantly less helpful than did the GPs and MHS staff. All groups agreed that medication was the most helpful form of treatment, but the patients rated this as less helpful than the GPs. MHS staff rated recreational activities and psychological treatments as more helpful than the GPs and patients rated them.

GPs' ratings (on Likert scales ranging from 0 to 6) of their diagnostic and treatment confidence in relation to schizophrenia were significantly lower than those of community MHS staff [mean diagnostic confidence: 3.91 (SD = 1.10) *vs.* 5.10 (SD = 0.74), $F_{(1, 238)} = 52.37$, $P < 0.001$; mean treatment confidence: 3.31 (SD = 1.23) *vs.* 4.84 (SD = 0.71), $F_{(1,238)} = 71.81$, $P < 0.001$]. GPs also rated themselves as highly likely to refer patients with schizophrenia to mental health specialists (mean of 5.54 on a 0–6 scale, SD = 0.71). We also examined selected relationships between ratings of diagnostic and treatment confidence and perceived helpfulness. For example, among 137 GPs currently treating patients with schizophrenia, ratings of the overall perceived helpfulness of GPs were positively associated with ratings of their own diagnostic and treatment confidence in relation to schizophrenia ($r = 0.37$, $P < 0.001$; and $r = 0.32$, $P < 0.001$, respectively).

Health professionals' perceived roles and management concerns

Written comments by GPs and community MHS staff about their perceived roles in treating patients with schizophrenia were coded into a series of (non-mutually exclusive) categories. Table 2 lists roles that were identi-

Table 2 Perceived roles in treating patients with schizophrenia – summary of written comments by General Practitioners and clinical staff from community Mental Health Services (MHS)

Perceived roles in treating patients with schizophrenia	Percentage of group providing written comments[a]	
	General Practitioners (N = 192)	Community MHS staff[b] (N = 50)
Monitoring treatment plans	53.6	34.0
Ongoing management	52.6	36.0
Early detection, warning signs and relapse prevention	32.8	38.0
Maintenance of general health	28.6	6.0**
Referral to other services	25.5	44.0
Counselling	21.9	46.0**
Family liaison and support	20.8	28.0
Initial crisis management	7.3	36.0**
Information provision	5.7	62.0c**
Implementation of treatment plans	3.6	50.0**
Roles nominated only by MHS staff:		
Consultation-liaison with other agencies	–	38.0
Patient advocacy, rights and empowerment	–	26.0
Specialist assessment and review of referrals	–	22.0

[a] Endorsed by at least 10 % of one group
[b] Chi-square tests were used to compare groups (df = 1): * $P < 0.01$, ** $P < 0.001$
[c] Includes provision of information to GPs

Table 3 Main problems treating patients with schizophrenia – summary of written comments by General Practitioners and clinical staff from community Mental Health Services (MHS)

Main problems or difficulties encountered in treating patients with schizophrenia	Percentage of group providing written comments[a]	
	General Practitioners (N = 192)	Community MHS staff[b] (N = 50)
Patient-related issues:		
Compliance with treatment	47.9	44.0
Patient understanding of disorder/ treatment	19.8	34.0
Family, relationships, community attitudes	12.5	48.0**
Illness issues (e. g. side-effects, symptoms)	8.3	34.0**
Substance use/abuse	7.3	28.0**
Work issues, structured use of time	4.7	14.0
Agency-related issues (i. e. other agencies):		
Communication or planning difficulties	17.2	14.0
Accessibility	13.0	36.0**
GP issues raised by MHS staff	–	12.0
Own limitations or restrictions:		
Medication management skills	15.6	0.0*
Training (e. g. detection, assessment skills)	14.6	8.0
General management (e. g. overall health care)	9.9	16.0
Time constraints	3.6	14.0

[a] Endorsed by at least 10 % of one group
[b] Chi-square tests were used to compare groups (df = 1): * $P < 0.01$, ** $P < 0.001$

fied by at least 10 % of either group and compares the rates of endorsement between groups. GPs saw their 'top five' roles as: monitoring treatment plans; participating in ongoing patient management; early detection and relapse prevention; maintenance of general health; and referral to other services. By comparison, MHS staff saw their 'top five' roles as: the provision of information; implementation of treatment plans; counselling; referral to, and consultation-liaison with, other agencies; and early detection and relapse prevention. GPs regarded themselves as playing a lesser role than community MHS staff in counselling, initial crisis management, information provision and implementation of treatment plans, and a greater role in the maintenance of general health. Most GPs (91.7 %) also commented favourably on (GP – specialist) 'shared care' approaches to the management of schizophrenia.

As shown in Table 3, and based on their coded written comments, almost half of the GPs identified treatment compliance as the main problem in managing patients with schizophrenia, with each of the other problems being identified by less than one-fifth of the GPs. By contrast, six main problems were identified by at least one-quarter of the community MHS staff: family, relationships and community attitudes; treatment compliance; accessibility to other agencies and services; patients' understanding of their disorder and its treatment; illness-related problems (symptoms, drug side-effects); and substance use/abuse.

Again, based on their coded written comments, GPs tended to identify low levels of accessibility (26 %) and poor communication (18.2 %) as the most unhelpful aspects of assistance from specialist agencies, including mental health services. On the other hand, the provision of acute care (19.3 %), supervision of patients (18.2 %), management of medication (15.6 %) and clinical assessment (13 %) were identified by GPs as the most helpful forms of assistance obtained from specialist agencies in the treatment of their schizophrenia patients.

Discussion

We have previously reported that 75 % of GPs in the Hunter region of New South Wales are currently treating patients with schizophrenia (99 % confidence interval: 69 %–81 %), comprising, on average, two patients treated conjointly with specialist services and one patient treated without ongoing specialist support (Lewin and Carr 1998). For the 192 GPs whose data are reported here, there were comparable patterns of contact with patients with schizophrenia and similar treatment profiles. Consequently, it should be emphasised that the findings reported in this paper are based on GPs' beliefs and perceptions in general and are not restricted to those GPs who are currently treating patients with schizophrenia.

Some cross-validation of the study's findings was also possible because nine of the 'groups of people' evaluated in the helpfulness ratings were comparable to those used in recent Australian studies (Jorm et al.

1997a; Caldwell and Jorm 2000). For these elements, GPs' mean ratings of perceived helpfulness from the current study showed high rank order agreement with those reported by Jorm et al. (1997a) (Spearman $\rho = 0.90$). Likewise, mean helpfulness ratings by MHS staff were comparable (in rank order) to those reported previously for psychiatrists and clinical psychologists (Jorm et al. 1997a) (Spearman $\rho = 0.97$ and 0.95, respectively) and mental health nurses (Caldwell and Jorm 2000) (Spearman $\rho = 0.93$).

Overall, schizophrenia patients appear less sanguine than health professionals about the helpfulness of various 'groups of people' and 'treatments and activities' for their illness. Notably, they regard family members as likely to provide the most helpful forms of assistance. This contrasts with ratings by MHS staff who ranked family members much lower in terms of helpfulness, which probably reflects their clinical experience and the fact that only a minority of schizophrenia patients live with their families (Jablensky et al. 2000). Contact between mental health professionals and patients' families and carers tends to be minimal in current clinical practice (Harvey et al. 2002). As MHS staff and other mental health professionals increase their engagement with family members and carers, through improved treatment-planning processes and more intensive interventions, their beliefs and attitudes about the value of these support networks may change. However, specific training for GPs and MHS staff may be necessary to achieve higher levels of family contact and support (Harvey et al. 2002).

On the whole, GPs' rankings of helpfulness in relation to 'groups of people' corresponded more closely to those of the patients, compared to the correspondence in rankings between MHS staff and patients. The helpfulness of GPs was rated highly by all three groups, a finding that accords with their high position in the public mind for helpfulness in caring for patients with schizophrenia (Angemeyer et al. 1999; Jorm et al. 1997a, b).

MHS staff and patients both ranked the perceived helpfulness of 'treatments and activities' similarly, but patients rated regular employment as less likely to be helpful. This suggests a possible greater awareness among health professionals of the benefits of employment in terms of symptom control, level of functioning, self-esteem, independence and rates of hospitalisation (Lysakar and Bell 1995; Bell et al. 1996; Mueser et al. 1997). All groups agreed on the paramount value of medication, although patient assessments of its degree of helpfulness were lower than those of the health professionals. The higher ratings by MHS staff of recreational activities and psychological treatments, relative to the other two groups, may reflect their greater familiarity with these interventions. However, these findings are somewhat at variance with those of a recent study involving GPs, psychiatrists and clinical psychologists which found that GPs were more likely than psychiatrists to favour psychological and lifestyle interventions for schizophrenia (Jorm et al. 1997c).

GPs and MHS staff saw their respective roles with regard to the treatment of schizophrenia as different in several ways, but to a large extent they were complementary to each other. MHS staff seemed to regard their role as more specialised, reflecting their particular expertise, whereas GPs perceived themselves as taking a more general, participatory role in supporting the work of the specialist services and overseeing the patient's general health. A similar pattern emerged in a recent study by Burns et al. (2000), which examined the responsibilities of GPs and community mental health staff for the management of patients with long-term psychotic disorders in the community. However, while it was universally agreed that GPs should be primarily responsible for the management of physical problems, there was also a tendency for London GPs to believe that mental health team members needed to take greater (shared) responsibility for screening patients for physical problems, particularly as they were often at increased risk (Burns et al. 2000).

In the current study, GPs and MHS staff also saw themselves as having a shared role in relation to early detection and relapse prevention. Our findings suggest that GP role perceptions are consistent with the published guidelines for managing schizophrenia in general practice that include early detection and prompt intervention at times of relapse or psychosocial crises (Nazareth and King 1992; Falloon and Fadden 1993; King and Nazareth 1996; Burns and Kendrick 1997; Carr 1997a, b; Keks et al. 1997; Copolov 1998).

Arguably, compared to MHS staff, the GPs displayed relatively low levels of confidence in their clinical skills with respect to the management of schizophrenia, which may account for the apparent discomfort of some GPs in treating these patients (Lawrie et al. 1996, 1998). However, their mean ratings for diagnostic and treatment confidence in relation to schizophrenia (of 3.91 and 3.31 out of 6, respectively) are remarkably similar to the overall ratings obtained in an earlier GP study comparing eleven groups of mental disorders (of 3.94 and 3.27, respectively – see Carr et al. 1997, Table 1), suggesting that there is scope for improvement in clinical skills and confidence across the spectrum of mental disorders, not just in relation to schizophrenia.

The outstanding problem in treating schizophrenia identified by GPs in this study was treatment compliance (e. g. failure to take medications or to keep regular appointments), a finding that is consistent with other research in this area (Falloon et al. 1996; Holden 1996; Keks et al. 1997). In contrast, although MHS staff also reported treatment compliance and patient insight problems (see Table 3), they more frequently identified a wide range of other difficulties, including social problems, illness-related factors, substance use problems and difficulties in gaining access to various agencies and services. Limitations in medication management skills were reported more frequently by GPs than by MHS staff, a phenomenon similarly identified in other studies (Falloon et al. 1996; Toews et al. 1996).

From the GPs' point of view, in this study the most unhelpful aspect of assistance from specialist mental health agencies in treating schizophrenia was poor communication and poor accessibility. This is consistent with research carried out in New Zealand (Falloon et al. 1996), Canada (Toews et al. 1996; Craven et al. 1997) and the United Kingdom (Holden 1996; Bindman et al. 1997) where communication problems with other mental health agencies and professionals, especially psychiatrists and mental health teams, were singled out as one of the greatest difficulties faced by GPs in the care of patients with schizophrenia. GPs have been critical of MHS failures to inform them about changes to treatment and of the inaccessibility or unavailability of specialist help during crises (Toews et al. 1996; Craven et al. 1997). Other service-related problems previously identified by GPs have included the amount of time required to manage patients with multiple problems, contrary to the present findings, and non-recognition of, or lack of respect for, GPs' knowledge by mental health teams (Falloon et al. 1996; Craven et al. 1997).

Limitations of the study

The major limitations of this study relate to sample representativeness, generalisability, and measurement issues. With respect to sampling issues, participants were drawn from a single geographical region, there were moderate refusal rates by GPs, and, more importantly, low overall contact rates with suitable general practice patients, necessitating supplementary recruitment procedures. This was due mainly to the absence of direct researcher-participant communication channels. The Australian health service context within which this study was conducted also sets limits on the extent to which international comparisons can be made (e. g. GPs are self-employed, and most patients in this study were receiving welfare benefits and had access to subsidised health care).

From a measurement viewpoint, the questionnaire-based approach used here was rudimentary, comprising a mixture of simple Likert ratings and open-ended questions to assess perceived helpfulness, confidence, roles and problems, rather than interviews with health professionals, or more objective indices such as contact and referral rates. Other studies have used clinical vignettes and asked participants, including members of the general public, to identify likely problems/diagnoses, treatments and outcomes (e. g. Jorm et al. 1997a; Angemeyer et al. 1999). In the present study, we simply specified the target disorder (i. e. schizophrenia), which was probably sufficient given the particular groups of interest (i. e. GPs, MHS staff, and patients with the disorder) and the similarity of our findings to previous Australian studies. The use of pre-specified response alternatives, as opposed to open-ended questions, may have also contributed to a different set of profiles to those reported in Tables 2 and 3. However, while structured questionnaires may have led to higher rates of endorsement than open-ended questions, the same method was used for both groups and presumably the same biases apply.

We need to develop a variety of techniques for routinely assessing differences in the perceived roles and attitudes of mental health professionals, patients and carers. With respect to the ongoing training of GPs and other mental health professionals, brief checklists may also be useful for quantifying their confidence and satisfaction with *specific* treatment roles and identifying related problems. The categories devised here (see Tables 2 and 3) for coding written responses to GPs' perceived roles in treating patients with schizophrenia and the 'main problems or difficulties encountered' may provide a useful start.

Conclusions

Approximately three-quarters of Australian GPs treat patients with schizophrenia. They broadly agree with community MHS staff and patients on what 'groups of people' and 'treatments and activities' are helpful in the treatment of schizophrenia, except for the fact that they rate regular employment more highly as a helpful activity for such patients. They concur with MHS staff that these groups and interventions are more helpful than the patients are prepared to acknowledge. Although less confident in their clinical skills with respect to schizophrenia than MHS staff, GPs see themselves as having an active and useful role in the treatment of schizophrenia that is largely complementary to that of MHS staff. Moreover, the areas in which their perceived roles do overlap are extremely important, namely early detection and relapse prevention. They find that treatment compliance is the main clinical problem in treating schizophrenia from their point of view, but also identify difficulties with patient insight and certain social factors. GPs feel limited in the areas of medication management and clinical training in psychiatric matters. Indeed, GPs' levels of confidence in their own diagnostic and treatment skills are partially reflected in their perceptions of the overall helpfulness of GPs in treating patients with schizophrenia. Surprisingly, time constraints are not regarded as a major difficulty, but communication with and accessibility to mental health services and other agencies is widely regarded as a major obstacle to their providing care for this patient group.

There is a need for greater acknowledgement of the valuable and complementary role of GPs in the treatment of schizophrenia. We also need to better equip them through undergraduate and postgraduate training to fulfil this role effectively, and through more sophisticated, outcome-focused mental health research (Hodges et al. 2001). At the same time, mental health services need to work more effectively with GPs in treating schizophrenia, particularly through improving communication with GPs, facilitating better access to their services, and advanced skills training for mental health nurses

working with GPs (Harmon et al. 2000). Finally, the fact that close family members were rated by patients as the most helpful group for people with schizophrenia attests to the importance of social support and the need for health professionals to provide appropriate advice and support for carers and patients alike.

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