Effects of case-load size on the process of care of patients with severe psychotic illness[†]

Report from the UK700 trial

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Background Studies of intensive case management (ICM) for patients with psychotic illnesses have produced conflicting results in terms of outcome. Negative results have sometimes been attributed to a failure to deliver differing patterns of care.

Aims To test whether the actual care delivered in a randomised clinical trial of ICM v. standard case management (the UK700 trial) differed significantly.

Method Data on 545 patients' care were collected over 2 years. All patient contacts and all other patient-centred interventions (e.g. telephone calls, carer contacts) of over 15 minutes were prospectively recorded. Rates and distributions of these interventions were compared.

Results Contact frequency was more than doubled in the ICM group. There were proportionately more failed contacts and carer contacts but there was no difference in the average length of individual contacts or the proportion of contacts in the patients' homes.

Conclusions The failure to demonstrate outcome differences in the UK700 study is not due to a failure to vary the treatment process. UK standard care contains many of the characteristics of assertive outreach services and differences in outcome may require that greater attention be paid to delivering evidence-based interventions.

Declaration of interest None.

[†] See editorial, pp. 386–387, this issue.

Studies of differing forms of intensive case management (ICM)(Holloway et al, 1995; Holloway & Carson, 1998; Mueser et al, 1998; Thornicroft et al, 1998) have increasingly failed to replicate the highly significant advantages over standard care demonstrated in early American (Stein & Test, 1980) and Australian work (Hoult et al, 1983). Several possible reasons for this have been proposed, including ambiguity over terms, differences in control services and, more recently, a failure in European services to replicate the critical components of the earlier, successful experimental services. The core features of assertive community treatment (ACT) (the specific form of ICM subjected to the most intense research exercise) have been described in detail (Teague et al, 1998). Concern with 'programme fidelity' has received impetus from work showing that even in well-conducted trials there can be overlap in the practice between intensive and standard teams, and that these differences in practice relate to outcome (McHugo et al, 1999). The failure of European trials of ICM to demonstrate differences in outcome could, therefore, be due to a failure to vary the process of care. We have prospectively measured the process of care in intensive and standard case management services subjected to a randomised controlled trial (RCT) (UK700 Group, 1999a,b) to test the questions: is the process of care clearly different in the two services and if so in what ways, and also do site differences interact with any treatment group effects?

METHOD

Patient and staff samples

Subjects were recruited from four inner-city mental health services (South Manchester, and Brixton, Paddington and Wandsworth in London). Aged between 18 and 65, they suffered from psychotic illnesses with a minimum of two hospital admissions, the most recent within 2 years. They were randomly allocated to either ICM (case-load 1:10–15) or standard case management (SCM) (case-load 1:30–35). Details of the baseline characteristics (UK700 Group, 1999c), the process of randomisation and outcomes at 2 years have been published (UK700 Group, 1999a).

Staff for the two services were broadly comparable. The Manchester site was unable to collect SCM data and is therefore excluded from this study. A total of 550 patients were eligible (196 from St George's Hospital, 201 from St Mary's Hospital and 153 from King's College Hospital). Five patients were excluded: two because of failed allocation, two moved away and one was referred to another agency before any activity. Staff involved in data collection in St George's included all 169 members of six community mental health teams (CMHTs) (including the intensive case managers), 73 staff in King's and 39 in St Mary's.

Process of care (activity) data

Collecting prospective treatment data over 2 years on 550 patients requires cooperation from a wide range of hard-pressed mental health staff. The process of data collection needed to be as simple and straightforward as possible, in particular the categories of care to be recorded needed to be immediately obvious. A modified Delphi process was conducted with the ICM staff at St George's to derive the treatment categories (Bale et al, 1997; Fiander & Burns, 2000), which were adopted across the four sites.

Most staff members were mental-health trained nurses, but also included were psychologists, occupational therapists, social workers and doctors (UK700 Group, 1999a). Staff were required to fill out an 'event record' for each contact, failed contact or prolonged telephone conversation with 'the patient or family and prolonged contact with other agencies. This event record noted the focus of the care event, the duration (with and without travelling time) and location.

Recording of contacts

We wished to understand the process of care over time for the average (or representative) patient. Overall rates of contact were derived from the total per site and treatment group, but for process measures we have calculated mean contact frequencies and proportions of the different types of contact for the average patient per 30 days.

Five types of event were recorded: (a) face-to-face patient contact; (b) telephone

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contact (>15 minutes); (c) carer contact (>15 minutes); (d) coordination (contact with other professional agencies) (>15 minutes); (e) attempted (failed) face-to-face contact.

For all face-to-face contacts, the primary focus of the event was categorised into 11 types: (a) housing; (b) occupation and leisure; (c) finance; (d) daily living skills; (e) criminal justice system; (f) carers and significant others; (g) engagement; (h) physical health; (i) specific mental health intervention or assessment; (j) medication; (k) case conference.

Staff were trained in the use of the event records, and provided with detailed written guidelines. They met frequently with M.F. to solve problems and monitor performance. The completeness of data collection was verified by case-note audits. Data collection took place from February 1994 to December 1998.

Processing of activity data

Medical out-patient data could not be accurately obtained and so has been excluded from the analysis. Patients who moved away from the area permanently (27) or who were discharged from randomised care and transferred to the care of another mental health team not involved in the study (21) had their participation periods reduced accordingly, similarly for patients who died during the study.

Statistical methods

Mean rates of care activities were compared between the two types of case management using *t*-tests; regression analyses were implemented to examine site-by-group interaction effects. Separate *t*-tests of outcome were performed for each site to calculate within-site estimates and confidence intervals for differences between the case management groups. Formal tests of normality revealed that most of the care activity outcomes were highly skewed.

The 'bootstrap' (Efron & Tibshirani, 1993), a computation-based method for assigning measures of accuracy to statistical estimates, was used to validate the confidence intervals yielded by the *t*-tests. Where bootstrap analyses yielded similar results to the *t*-tests the latter are presented, otherwise bias-corrected accelerated confidence intervals from the bootstrap analyses are used. Frequencies of interventions were calculated as rates per 30 days and the mean rates and mean proportions presented are those for the average patient. Where they are summed in this paper, the 'average patient' for each intervention has been independently calculated and so the figures may be slightly different from those derived from overall rates of contact.

RESULTS

Intervention effect (ICM v. SCM)

A total of 39 025 care events were recorded for the 545 patients. Of these, 29 390 were face-to-face contacts. ICM patients received just over twice as much care, with a mean of 4.41 events per 30 days (total 26 841) as opposed to 1.94 in the standard arm (total 12 184). In ICM, 77.3% (16 067 of the total 20 788) of face-to-face contacts were 'in-vivo' (i.e. not conducted in a service setting). In SCM, the rate was a strikingly similar 76.5% (6577 out of 8602). The mean duration of face-to-face contacts was 40.6 minutes (s.d.=30.3) ICM and 37.4 minutes (s.d.=24.8) SCM. This mean difference of just over 3 minutes achieves high statistical significance ($P < 0.001$) because of the sample size but is of little clinical import.

Table 1 lists the mean frequencies of the five event types and the 11 focuses of the

Table 1 Mean activity rates per subject per 30 days: intensive case management v. standard case management

Care event	Intensive			Standard			Total *n*	Difference (intensive − standard)		
	Mean	(s.d.)	*n*	Mean	(s.d.)	*n*		Estimate	(95% CI)	*P*
Type of event										
T1　Face-to-face	3.35	(3.21)	272	1.46	(0.77)	273	545	1.90	(1.50 to 2.29)	<0.001
T2　Telephone	0.13	(0.23)	272	0.05	(0.11)	273	545	0.08	(0.05 to 0.11)	<0.001
T3　Carer	0.13	(0.29)	272	0.04	(0.09)	273	545	0.10	(0.06 to 0.13)	<0.001
T4　Coordination	0.39	(0.66)	272	0.14	(0.21)	273	545	0.25	(0.17 to 0.34)	<0.001
T5　Attempted face-to-face	0.18	(0.36)	272	0.04	(0.10)	273	545	0.14	(0.10 to 0.18)	<0.001
Focus of face-to-face event (no. per 30 days)										
F1　Housing	0.23	(0.41)	272	0.08	(0.16)	273	545	0.15	(0.10 to 0.20)	<0.001
F2　Occupation and leisure	0.34	(0.53)	272	0.08	(0.16)	273	545	0.26	(0.19 to 0.32)	<0.001
F3　Finance	0.18	(0.33)	272	0.04	(0.11)	273	545	0.13	(0.09 to 0.17)	<0.001
F4　Daily living skills	0.10	(0.26)	272	0.03	(0.06)	273	545	0.08	(0.04 to 0.11)	<0.001
F5　Criminal justice system	0.01	(0.06)	272	0.00	(0.01)	273	545	0.01	(0.003 to 0.02)	0.006
F6　Carers and significant others	0.07	(0.18)	272	0.03	(0.07)	273	545	0.04	(0.02 to 0.07)	<0.001
F7　Engagement	0.44	(0.52)	272	0.20	(0.27)	273	545	0.25	(0.18 to 0.32)	<0.001
F8　Physical health	0.08	(0.21)	272	0.01	(0.04)	273	545	0.07	(0.04 to 0.09)	<0.001
F9　Specific mental intervention/assessment[1]	1.26	(1.28)	272	0.82	(2.47)	273	545	0.44	(−0.23 to 0.65)	NS
F10　Medication	0.69	(1.04)	272	0.48	(1.22)	273	545	0.20	(0.01 to 0.40)	0.04
F11　Case conference	0.01	(0.06)	272	0.01	(0.03)	273	545	0.01	(−0.003 to 0.01)	0.20

1. Confidence interval produced by bootstrap analysis.

Table 2 Mean proportions of activities per subject: intensive case management *v.* standard case management

Care event	Intensive			Standard			Total *n*	Difference (intensive − standard)		
	Mean	(s.d.)	*n*	Mean	(s.d.)	*n*		Estimate	(95% CI)	*P*
Type of event 15 minutes or more										
T1 Face-to-face	0.80	(0.17)	270	0.86	(0.14)	267	537	−0.06	(−0.09 to −0.04)	<0.001
T2 Telephone	0.03	(0.05)	270	0.02	(0.05)	267	537	0.01	(−0.001 to 0.02)	0.06
T3 Carer	0.03	(0.05)	270	0.02	(0.04)	267	537	0.01	(0.01 to 0.02)	0.001
T4 Coordination	0.10	(0.12)	270	0.08	(0.09)	267	537	0.02	(0.01 to 0.04)	0.01
T5 Attempted face-to-face	0.04	(0.07)	270	0.02	(0.06)	267	537	0.02	(0.01 to 0.03)	0.002
Focus of face-to-face event										
F1 Housing	0.06	(0.10)	268	0.05	(0.10)	268	536	0.01	(−0.003 to 0.03)	0.11
F2 Occupation and leisure	0.08	(0.11)	268	0.05	(0.11)	268	536	0.03	(0.01 to 0.04)	0.005
F3 Finance	0.04	(0.07)	268	0.03	(0.06)	268	536	0.02	(0.004 to 0.03)	0.009
F4 Daily living skills	0.02	(0.06)	268	0.02	(0.06)	268	536	0.004	(−0.01 to 0.01)	0.50
F5 Criminal justice system	0.003	(0.02)	268	0.002	(0.01)	268	536	0.002	(−0.001 to 0.00)	0.16
F6 Carers and significant others	0.02	(0.04)	268	0.02	(0.05)	268	536	−0.0001	(−0.01 to 0.01)	0.97
F7 Engagement	0.16	(0.18)	268	0.14	(0.18)	268	536	0.02	(−0.01 to 0.05)	0.15
F8 Physical health	0.02	(0.03)	268	0.01	(0.03)	268	536	0.01	(0.002 to 0.01)	0.009
F9 Specific mental health intervention/assessment	0.42	(0.25)	268	0.44	(0.27)	268	536	−0.02	(−0.07 to 0.02)	0.29
F10 Medication	0.17	(0.16)	268	0.23	(0.25)	268	536	−0.06	(−0.10 to −0.03)	<0.001
F11 Case conference	0.005	(0.02)	268	0.01	(0.02)	268	536	−0.001	(−0.004 to 0.00)	0.58

Table 3 Mean rates of types of care activity (lasting 15 minutes or more): per patient per 30 days: intensive case management *v.* standard case management

Variable	Intensive			Standard			Difference (intensive − standard)		
	Mean	(s.d.)	*n*	Mean	(s.d.)	*n*	Estimate	(95% CI)	*P*[1]
T1 Face-to-face contact									
St George's	4.907	(2.457)	97	1.387	(0.861)	99	3.520	(2.9970 to 4.0425)	
St Mary's	2.347	(1.446)	98	1.411	(0.653)	101	0.936	(0.6198 to 1.2521)	<0.001
King's	2.677	(4.640)	77	1.610	(0.795)	73	1.066	(−0.0020 to 2.1346)	
T2 Telephone contact									
St George's	0.174	(0.254)	97	0.057	(0.156)	99	0.117	(0.0572 to 0.1764)	
St Mary's	0.086	(0.147)	98	0.047	(0.078)	101	0.039	(0.0057 to 0.0719)	0.07
King's	0.131	(0.268)	77	0.027	(0.088)	73	0.103	(0.0394 to 0.1672)	
T3 Carer contact									
St George's	0.237	(0.421)	97	0.049	(0.121)	99	0.188	(0.1001 to 0.2762)	
St Mary's	0.053	(0.086)	98	0.035	(0.063)	101	0.017	(−0.0039 to 0.0381)	<0.001
King's	0.101	(0.205)	77	0.021	(0.045)	73	0.079	(0.0317 to 0.1269)	
T4 Coordination									
St George's	0.453	(0.542)	97	0.111	(0.258)	99	0.342	(0.2213 to 0.4621)	
St Mary's	0.279	(0.371)	98	0.133	(0.153)	101	0.146	(0.0664 to 0.2265)	0.13
King's	0.463	(0.990)	77	0.186	(0.180)	73	0.277	(0.0484 to 0.5052)	
T5 Attempted face-to-face contact									
St George's	0.317	(0.485)	97	0.039	(0.122)	99	0.278	(0.1776 to 0.3787)	
St Mary's	0.104	(0.172)	98	0.035	(0.073)	101	0.069	(0.0314 to 0.1061)	<0.001
King's	0.095	(0.301)	77	0.040	(0.083)	73	0.055	(−0.0158 to 0.1260)	

1. Significance of the site-by-group interaction effect.

Table 4 Mean proportions of focus of face-to-face activity per patient: intensive case management v. standard case management

Variable	Intensive			Standard			Difference (intensive − standard)		
	Mean	(s.d.)	n	Mean	(s.d.)	n	Estimate	(95% CI)	P[1]
FP1 Housing									
St George's	0.092	(0.119)	96	0.074	(0.143)	96	0.018	(−0.0191 to 0.0556)	
St Mary's	0.047	(0.083)	98	0.042	(0.062)	101	0.005	(−0.0156 to 0.0252)	0.71
King's	0.041	(0.066)	74	0.021	(0.042)	71	0.020	(0.0013 to 0.0377)	
FP2 Occupation and leisure									
St George's	0.144	(0.130)	96	0.089	(0.150)	96	0.055	(0.0151 to 0.0950)	
St Mary's	0.059	(0.081)	98	0.044	(0.074)	101	0.015	(−0.0066 to 0.0369)	0.05
King's	0.028	(0.068)	74	0.023	(0.047)	71	0.005	(−0.0140 to 0.0245)	
FP3 Finance									
St George's	0.070	(0.086)	96	0.039	(0.079)	96	0.032	(0.0080 to 0.0551)	
St Mary's	0.025	(0.040)	98	0.026	(0.057)	101	0.000	(−0.0138 to 0.0138)	0.06
King's	0.037	(0.074)	74	0.022	(0.040)	71	0.015	(−0.0050 to 0.0341)	
FP4 Daily living skills									
St George's	0.037	(0.067)	96	0.032	(0.055)	96	0.005	(−0.0125 to 0.0224)	
St Mary's	0.024	(0.059)	98	0.013	(0.030)	101	0.011	(−0.0020 to 0.0241)	0.31
King's	0.006	(0.023)	74	0.014	(0.096)	71	−0.008	(−0.0311 to 0.0142)	
FP5 Criminal justice system									
St George's	0.007	(0.024)	96	0.002	(0.010)	96	0.005	(−0.0005 to 0.0099)	
St Mary's	0.001	(0.010)	98	0.001	(0.005)	101	0.001	(−0.0017 to 0.0028)	0.05
King's	0.000	(0.002)	74	0.002	(0.006)	71	−0.001	(−0.0031 to 0.0001)	
FP6 Carers and significant others									
St George's	0.020	(0.034)	96	0.028	(0.067)	96	−0.008	(−0.0227 to 0.0076)	
St Mary's	0.026	(0.048)	98	0.019	(0.039)	101	0.007	(−0.0047 to 0.0195)	0.22
King's	0.007	(0.020)	74	0.007	(0.017)	71	0.000	(−0.0062 to 0.0061)	
FP7 Engagement									
St George's	0.170	(0.178)	96	0.077	(0.140)	96	0.093	(0.0474 to 0.1384)	
St Mary's	0.181	(0.170)	98	0.262	(0.200)	101	−0.082	(−0.1336 to −0.0300)	<0.001
King's	0.135	(0.186)	74	0.057	(0.106)	71	0.078	(0.0281 to 0.1271)	
FP8 Physical health									
St George's	0.033	(0.044)	96	0.013	(0.035)	96	0.020	(0.0086 to 0.0315)	
St Mary's	0.007	(0.019)	98	0.009	(0.023)	101	−0.003	(−0.0084 to 0.0033)	<0.001
King's	0.006	(0.017)	74	0.004	(0.014)	71	0.002	(−0.0030 to 0.0072)	
FP9 Specific mental health intervention/assessment									
St George's	0.239	(0.181)	96	0.405	(0.292)	96	−0.167	(−0.2358 to −0.0972)	
St Mary's	0.426	(0.215)	98	0.344	(0.198)	101	0.083	(0.0250 to 0.1403)	<0.001
King's	0.633	(0.197)	74	0.625	(0.252)	71	0.008	(−0.0667 to 0.0822)	
FP10 Medication									
St George's	0.184	(0.148)	96	0.230	(0.287)	96	−0.046	(−0.1106 to 0.0196)	
St Mary's	0.203	(0.174)	98	0.240	(0.189)	101	−0.037	(−0.0881 to 0.0137)	0.12
King's	0.095	(0.122)	74	0.218	(0.263)	71	−0.123	(−0.1915 to −0.0553)	
FP11 Case conference									
St George's	0.003	(0.015)	96	0.011	(0.035)	96	−0.008	(−0.0156 to −0.0001)	0.002
St Mary's	0.000	(0.000)	98	0.000	(0.000)	101	0.000	(0.0000 to 0.0000)	
King's	0.013	(0.024)	74	0.006	(0.012)	71	0.007	(0.0004 to 0.0127)	

1. Significance of the site-by-group interaction effect.

face-to-face contacts by group for patients per 30 days. A substantial and highly statistically significant difference is found for all five types of event. ICM patients receive one face-to-face contact per 9 days compared to one per 21 days for SCM patients. Other types of contact were between 2.3 and 3.6 times more common in ICM apart from failed contacts, which were over 4 times more common.

The frequency of events with each individual focus is also significantly higher in

ICM apart from the most common ('specific mental health intervention/assessment'), which accounts for just under half the total contacts (42% in ICM) (44% in SCM), and for the least common ('case conference'), which accounts for 1% in each group.

Table 2 displays the mean proportions of types of events and the focuses of face-to-face events in the two treatment groups. This controls for the impact of the higher frequency of all contacts in ICM. ICM staff performed proportionately more 'non-face-to-face' contacts, significantly more carer contact, coordination and attempted face-to-face contacts. ICM staff dedicated a greater proportion of contacts to help with occupation and leisure, finance and also physical health care. This was balanced by a smaller proportion of medication activities (although the overall absolute number of medication contacts was still greater in ICM).

Site effect

St George's ICM had a case-load size of 1:12, the other two sites 1:15. Event rates were twice as high per patient in St George's ICM (6.7 per 30 days) as in St Mary's (3.2 per 30 days) and in King's (3.1 per 30 days). SCM rates showed little variation (1.9 for St George's, 1.9 for St Mary's and 2.2 per 30 days for King's).

There were substantial differences between the three sites in the rates of types of activity, as is shown in Table 3. This reflects some local differences in service configuration. There is a significant site-by-group interaction for face-to-face contacts, carer contacts and attempted contacts performed per average patient because of significantly higher rates in St George's ICM. Site-by-group interaction effects for the rates of focus of face-to-face activity are not presented but, predictably, the impact of site on group differences was significant for all categories apart from specific mental health intervention/assessment and case conferences, with carer contact showing only low significance ($P=0.04$). However, when proportions, rather than rates, of care activities were examined there was no significant impact of site on patterns of work between ICM and SCM.

Table 4 shows the mean proportions for the focus of face-to-face events and demonstrates differences in the pattern of this direct work with the patient, which may be due to higher contact frequency.

Within an overall higher frequency of contact in the St George's ICM, the proportion of contacts for specific mental health interventions/assessments is significantly less than the ICM in the other sites. St Mary's ICM appears to have made a substantially smaller proportion of face-to-face contacts dedicated to engagement than its SCM counterpart, although greater than the other two ICMs. St George's ICM devoted proportionately more face-to-face contacts on physical health and on occupation and leisure than the other ICMs. Case-conference activity was recorded very infrequently. This reflects the restriction of this category to specific case conferences with external agents.

DISCUSSION

Impact on contact frequency

This study confirms that case-load size does have a direct effect on levels of patient contact. For two of the sites (St Mary's and King's), that increase in contact, derived from the total figures, was marginally greater (2.2 times) than would have been expected had the staff simply continued their previous working patterns and distributed the visits between a smaller group of patients. For the third site (St George's), the contact frequencies in ICM were substantially greater, nearer 4 times than in SCM. This reflects the lower case-load size in St George's (1:12 *v.* 1:15 in St Mary's and King's) but also commitment to a model closer to ACT (Kent & Burns, 1996) aiming for two contacts per week per patient.

Profile of activity

This increase in contact frequency leads to important, although limited, changes in the profile of care. The intensive service not only had significantly more face-to-face contacts but also more attempted face-to-face contacts and carer contacts. Thus, smaller case-loads did achieve some of the service goals identified in the National Service Framework for Mental Health (Department of Health, 1999). Case managers with smaller case-loads did strive more vigorously to maintain contact (more telephone calls and failed visits) and they did substantially increase contact with carers in King's and St George's.

How special is outreach?

The major shift to 'in-vivo' practice reported in US studies was not found here. Contacts in patients' homes and neighbourhoods comprised 75% of all face-to-face contacts in both standard and intensive services. This is in striking contrast to the office-based practice of some of the earlier US and Australian study controls (Hoult & Reynolds, 1983) and reflects the established place of home-based services for the severely mentally ill in the UK. Home-based standard practice may explain, in part, the failure of ICM trials to demonstrate significant differences in outcome.

Do CMHTs prioritise?

An unanticipated advantage of the St George's service configuration is that the control patients were dispersed within the case-loads of generic keyworkers in a CMHT. This allowed us to examine whether keyworkers in CMHTs used clinical judgement to prioritise the more disabled patients, thereby providing the same level of contact as in ICM. The figures clearly show that this is not the case. Contact frequencies in the St George's SCM are very similar to those in the other two sites. Indeed, for the face-to-face contacts, the St George's mean rate was at the lower end (1.387 contacts per 30 days) which may weakly suggest that acute patients on the teams' case-loads are prioritised.

Limitations

Although this study answers the two frequently asked important questions about the effect of the introduction of intensive case management on the process of care it has several limitations. First, we are totally reliant on the data collected on-site. Although the completeness of this data was audited at all sites, it is possible that the level of recording varied between them and between ICM and SCM. ICM staff may have been more identified with the study, contact with researchers increasing their diligence. It could also be argued that they had more to prove by ensuring that their difference from the SCM practice was demonstrated. It is equally possible, however, that SCM staff might strive to demonstrate their focused activity with this patient group.

Evidence-based practice

A second major problem with this study is that, although we have measured and compared the process of care comprehensively, we may not have measured those aspects of care which have most relevance to outcome. We still have only anecdotal evidence of which features of ICM are critical to its sustained success. Also, the data collected in this study do not address the increasingly important issue of how frequently appropriate evidence-based interventions were delivered (UK700 Group, 1999a). Case management is not a treatment but a care structure for delivering treatments, as Holloway has repeatedly highlighted (Holloway, 1991; Waite et al, 1997). We have (apart from depot medication) not measured the rates of any specific treatments which have been previously linked with differences in outcome, such as behavioural family management in schizophrenia (Mari & Streiner, 1994) or compliance enhancement therapy for maintenance antipsychotics (Kemp et al, 1996). Having established, however, that reduction in case-load size does achieve an increased level of contact, it should now be possible for trials to be conducted using that increased contact frequency to deliver evidence-based treatments.

It would be easy to dismiss the finding that reducing the case-load is associated with increased contact frequency as a simple mathematical consequence. Clinical experience in this trial shows that this is not the case. Patients with severe and long-standing psychotic illnesses were often resistant to increasing contact with health-care staff. For many, it took several months to get up to weekly visiting (data on contact patterns over time will be reported separately). That it can be achieved strengthens the case for trials of intensive evidence-based interventions with this patient group in community settings rather than for making repetitive comparisons of different care systems.

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CLINICAL IMPLICATIONS

■ Intensive case management (ICM) with reduced case-loads, does lead to a significant increase in clinical contact with individuals with severe psychosis in the community, and to increased engagement activity and carer support.

■ Such individuals do not receive ICM levels of care in generic community mental health teams and explicit targeting is needed to achieve this.

■ The absence of an outcome difference, despite increased contact, indicates that attention to evidence-based treatments is essential for service-model changes to yield health gain.

LIMITATIONS

■ The process measures used did not include individual treatments.

■ The process categories used, although operationalised, are self-rated and subject to bias.

■ Detailed care-process recording is onerous and requires commitment from clinical staff.

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