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# Journal of Psychiatric Intensive Care

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### ORIGINAL RESEARCH ARTICLE

# Using clinical records to evaluate family intervention for psychosis in routine practice

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*Aims*: This study sought to evaluate family intervention (FI) for psychosis that had been offered in routine practice by a dedicated FI service.

*Method*: A retrospective analysis of electronic clinical records was undertaken to examine those who had received FI and their use of acute services (accident and emergency, home treatment, inpatient) in the two years preceding and following FI, as a measure of outcome. The analysis included 29 patients whose families had participated in five or more sessions of FI.

*Results*: The demographics of the sample were diverse. While there was no significant change in the number of admissions following FI, there was a modest reduction in time spent in acute care, particularly use of home treatment. *Conclusions*: Notable demographic differences between families suggest referral decision-making in routine care warrants further investigation. The study also offers tentative support for the translation of good FI outcomes into routine practice though implementation rates remain low.

**Key words:** family intervention; psychosis; acute care; relapse; readmission; routine practice

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**Declaration of interest:** None

#### Introduction

Since the 1950s, greater emphasis has been placed on psychiatric care in the community (see Killaspy 2006). Consequently, research has expanded on understanding individuals within their social context, including their families. The association between 'high expressed emotion' and relapse of psychosis originally provided a

rationale for offering family interventions (FI) to families supporting someone with psychosis (Vaughn & Leff 1976). Approaches to FI have developed over time, with the family increasingly being used as a resource, enabling a collaborative endeavour between practitioners and family members (Burbach 2012).

Meta-analyses have shown FI to be effective in reducing relapse and readmission for people with psychosis

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(Pilling et al. 2002; Pharoah et al. 2010). FI has been shown to be cost-effective by reducing the need for costly hospital care (Mihalopoulos et al. 2004). Given the pressures on healthcare funding, it is important that the positive outcomes of FI can be replicated in routine practice. This requires attention to both increasing availability of FI and ensuring that when FI is offered, provision is effective.

#### Availability of family intervention

National Institute of Health and Care Excellence (NICE) guidelines for psychosis and schizophrenia (most recent update NICE 2014) recommend that FI is offered to all families in regular contact with a patient. Despite these national standards, routine implementation remains limited in the UK (Bucci et al. 2016). Barriers may be organisational (e.g. high caseloads), practitioner-related (e.g. competence or confidence) or related to patient factors (e.g. not knowing FI exists, how to access it, or not wanting it) (Berry & Haddock 2008). Relatives may also be reluctant to engage if they have previously had a poor response from service providers (Fadden 2006).

Research has shown that people from black and minority ethnic (BME) groups are less likely to receive FI, possibly as a result of family disruption (Mallett et al. 2002). People from BME groups may also be more likely to be treated with medication than psychological therapies in general (McKenzie et al. 2001). In addition to this, some people from BME backgrounds may hold a distrust of mental health services (Sainsbury Centre for Mental Health 2002) and taken together, these factors may elicit notable cultural discrepancies in those receiving FI.

As BME groups are over-represented in mental health services (Owen & Khalil 2007) it is important to establish if services are overcoming these barriers by monitoring whether BME families are receiving psychological interventions. This is particularly important to explore considering the evidence that people from BME groups are more likely to be admitted to hospital for acute care (Bhui et al. 2003) and the link between FI and reductions in readmission (Pharoah et al. 2010).

#### Outcomes in routine care

Whilst randomised controlled trials (RCT) report good outcomes overall for FI, there is less reported evidence from service evaluations in routine practice. So far, research has focused largely on rates of implementation of FI at the expense of clarifying outcomes in routine practice (Mairs & Bradshaw 2005). While RCT may highlight the efficacy of an intervention in ideal conditions, this has limited application if the effectiveness of an intervention cannot be replicated in routine practice. Therefore, it is important that clinical services report FI outcomes to bridge the gap between research and routine care.

Background to the current study

This service evaluation aimed to use clinical records to ascertain who received FI for psychosis and whether FI led to a reduction in use of acute care in an ethnically diverse borough of London. In this particular borough, FI was provided via referral to a dedicated, community FI service.

The FI service comprised a small, centralised hub of part-time FI therapists (total 1.7 WTE (whole time equivalent) clinical psychologists). The service used behavioural family therapy (BFT) as the main approach to FI. BFT is a manualised approach incorporating psychoeducation and skills training, with an emphasis on engagement and family strengths (Falloon et al. 2004). Families have reported high satisfaction with BFT (Campbell 2004) and clinicians' responses have also been largely positive (Sin et al. 2014). As part of the local BFT dissemination strategy (Fadden 2006) the FI service trained and supervised frontline community mental health team (CMHT) staff in BFT, resulting in family co-workers varying in professional background. The service also linked with borough family focused inpatient services to enable efficient crossover for those moving from acute care into the community (see Taylor et al. 2016).

#### Method

This was a retrospective case-note audit of all patients referred for FI, who had received five or more sessions, and were at least two years post treatment.

The study aimed to capture information in three main areas:

- 1. Demographic information about who had engaged with the service.
- 2. Features of the family intervention received.
- Service related outcomes, namely the number of admissions, number of days spent in acute care and paired outcome measures where available, using the Clinical Outcomes in Routine Evaluation (CORE; Evans et al. 2000).

The FI service referrals database was screened for those who had received five sessions or more. A five-session threshold was determined a therapeutic 'dose' of FI, following other studies that have evaluated brief family approaches (Cohen et al. 2010; Okpokoro et al. 2014). BFT includes individual assessments, which were not counted as part of the five sessions. Additionally, a minimum of two years must have passed since the fifth session, as this was the follow up period identified for the study.

The case notes of each eligible patient were accessed using the Trust's electronic case note system. A standardised proforma was used to collect information for each referral. This included demographic information (e.g.

ethnicity), information about the intervention (e.g. number of sessions, duration of intervention) and outcome information (e.g. admissions, acute service days).

The date of the fifth session was the point from which the data period was calculated. Every acute hospital admission, home treatment team (HTT) admission and presentation to accident and emergency (A&E) was counted and the length of time in days spent in each of these services was calculated in the two years before the fifth session of FI, and in the two years after the fifth session.

The electronic case note system records the dates that patients join and leave each service, including acute services. These dates were cross-validated with clinician entries, which gave written descriptions of the status of the patient (e.g. 'admitted today'). If there were overlapping dates for different acute services, clinicians' entries were consulted for clarification.

The number of days spent in each service was calculated using an online time duration calculator (http://www.timeanddate.com/date/timeduration.html) which calculated the difference between the admission and discharge dates. Admissions to rehabilitation wards or hostels were not included.

The data were collated in an SPSS database for analysis, with Wilcoxon signed ranks tests used for pre and post comparisons.

The study was conducted as an exploration of the FI service database and approved by the Trust's Clinical Audit and Effectiveness Committee in December 2014. Formal research ethics approval was not sought as the data was held within the service and this was considered to fall within the category of service evaluation.

#### **Results**

There were 123 referrals for FI between March 2010 and December 2014. A brief exploration of closed cases showed that 44% referrals were for white ethnicity families, and just under half of these families did not take up any sessions (see Figure 1). Table 1 gives further details of the numbers of sessions families received, grouped by ethnicity.

At the start of the study, 66 families had been discharged from the service following at least one session of FI. Of this group, 40 families had received five or more sessions of FI; 29 of these families were at least 2 years post FI at the time of data collection and this group therefore comprised the sample of those who had engaged and were sufficiently post treatment to observe outcomes using clinical records (see Fig. 1).

*Demographic information* (n = 29)

The mean age was 35 years and 52% were male; similar figures to those for all referrals to the service. The sample

Table 1. Grouped ethnicity by number of sessions for closed cases (n = 100)

	Number of sessions					
	0	1–4	5–9	10–19	20 or more	Total
South Asian ethnicity	5 (19%)	7 (26%)	7 (26%)	6 (33%)	2 (7%)	27 (100%)
Black ethnicity	7 (29%)	7 (29%)	4 (16%)	3 (13%)	3 (13%)	24 (100%)
White ethnicity	18 (43%)	11 (26%)	2 (5%)	7 (16%)	4 (5%)	42 (100%)
Dual heritage	3 (75%)	`o ´	Ò	1 (1%)	ò	4 (100%)
Other	1 (33%)	1 (33%)	0	1 (33%)	0	3 (100%)

Table 2. Ethnicity

	Sample (n = 29)		Total referrals for FI (n = 123)		Community psychosis teams* (n = 1415)	Borough**
	n	%	n	%	%	%
Asian British/ Asian Indian/ Asian Pakistani/ Asian Other	10	34.5	30	24.5	13	15
Black African/ Black Caribbean/ Black British/ Black Other	7	24	30	24.5	36	20
White British/ White Other	10	34.5	54	44	43	55
Dual Heritage	1	3.5	4	3	4	7
Other	1	3.5	5	4	4	3

<sup>\*</sup>Trust report, January 2015

<sup>\*\*</sup>ONS (2012)

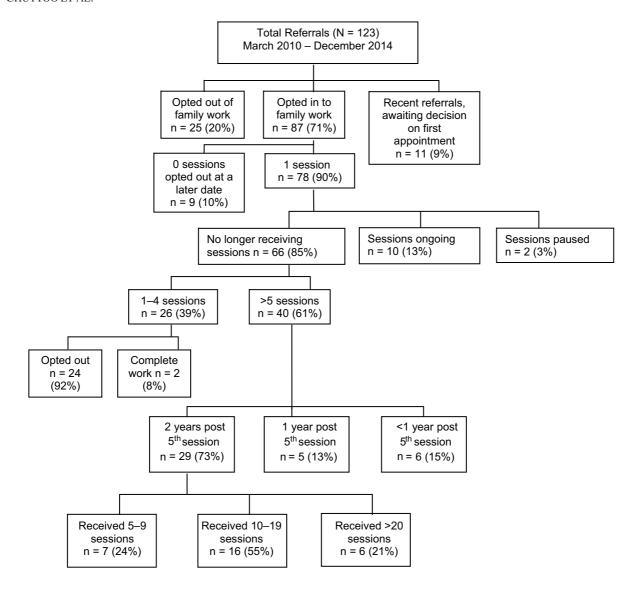


Fig. 1. Referrals to the service.

comprised 34.5% South Asian ethnicity families, 24.1% black ethnicity families and 34.5% white ethnicity families. The breakdown for ethnicity across the sample in relation to all referrals, mental health services, and borough census data is shown in Table 2.

90% had a diagnosis of a psychosis spectrum disorder, while 10% had a diagnosis of bipolar affective disorder; 8 people (28%) had a documented family history of mental health problems.

Of those in the sample, 9 people (31%) were in the early intervention service, with a mean length of time in the Trust of 2 years (range 0–5 years); the remainder were in community psychosis teams (62%) and community rehabilitation ward (7%), with a mean length of time in the Trust of 8 years (range 1–15 years).

Considering engagement with psychological therapies,

9 people (31%) had had individual psychological therapy before being referred for FI; 5 people (17%) received individual psychological therapy during or after FI, and 8 people (29%) had been referred or assessed for individual psychological therapy before, during or after FI.

Key features of the family intervention received

The 29 referrals came from 20 different referrers, including care co-ordinators, psychologists and psychiatrists. The mean number of family members involved was 2 (range 1–4 people) with various familial relationships. The majority of cases featured the patient with their parents (n = 17, 59%), with two cases featuring the patient with their spouse, and the remainder featuring various combinations of relationships, for example, patient with siblings and parents (n = 10, 34%).

Table 3. Admissions before and after family work

	Mean	Range	Wilcoxon Signed Ranks test
Total admissions to combined acute services 2 years before Total admissions to combined acute services 2 years after	1.48 1.24	0–11 0–10	Z = -0.540 p = 0.589
Hospital admissions 2 years before	0.34	0–2	Z = -0.133 p = 0.894
Hospital admissions 2 years after	0.34	0–4	
HTT admissions 2 years before	0.41	0–4	Z = -0.333 p = 0.739
HTT admissions 2 years after	0.31	0–2	
A&E admissions 2 years before	0.52	0–3	$Z = -0.272 \ p = 0.785$
A&E admissions 2 years after	0.45	0–4	

The mean number of sessions was 14 (range 5–26 sessions) and the mean duration of FI was 46 weeks, range 5–129 weeks; 76% of the sample had 10 or more sessions, and 90% received FI that lasted three months or longer.

Sessions were conducted by family workers of various professional backgrounds and various combinations of co-working pairs: 23 cases (79%) had a psychologist as one of their family workers; one case was seen by a psychiatrist working with a carer consultant; and 5 cases (17%) were seen by paired care coordinators.

#### Service related outcomes

Admissions. There were no significant differences between the number of admissions to acute services before and after FI, either in total or to each individual service (A&E, HTT or hospital) (see Table 3).

Length of stay. 12 people had not spent any time in acute services in the two years before or after FI; 10 people had spent more time in acute services in the two years before; and 6 people spent more time in acute services in the two years after than the two years before FI (see Fig. 2).

One case was identified as an outlier (Case 14; Fig. 2). This person had not had any acute service admissions previously but spent 182 days in acute services after FI. In the analysis, this outlier skewed the data and masked the effects seen in the rest of the sample. The analysis was therefore run without this case.

Days spent in acute services overall was significantly less after FI (mean 8.8 days) than before (mean 22.6 days). Table 4 shows statistical comparisons.

When considering each acute service, the number of days spent in HTT was significantly less after FI (mean 3.25 days) than before (mean 10.75 days). There were no

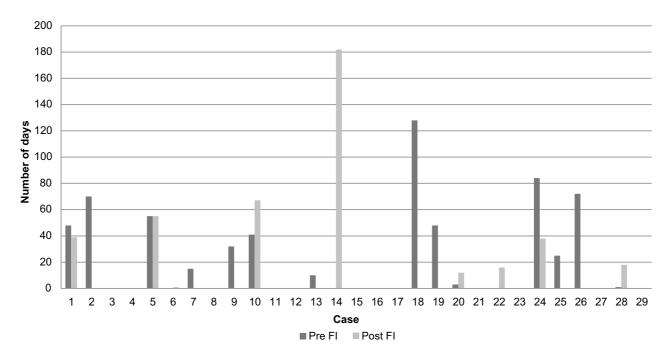


Fig. 2. Number of days spent in acute services in the two-year time period before and after five sessions of family intervention (FI) (n = 29).

Table 4. Days in acute services before and after family work

	Mean	Range	Wilcoxon Signed Ranks Test
Total days in acute services in the 2 years before family work Total days in acute services in the 2 years after family work	22.6 8.8	0–128 0–67	Z = -0.960 <i>p</i> = 0.05
Days in hospital 2 years before	11.29	0–84	Z = -0804 p = 0.421
Days in hospital 2 years after	5.07	0–47	
Days in HTT 2 years before	10.75	0–83	Z = -0.960 p = 0.05
Days in HTT 2 years after	3.25	0–37	
Days in A&E 2 years before	0.50	0–3	Z = -0.272 p = 0.785
Days in A&E 2 years after	0.46	0–4	

Table 5. CORE outcome measure data before and after family work

		Mean	Range	Wilcoxon Signed Ranks Test
Patients (n = 8)	Pre family work CORE Post family work CORE	1.43 1.03	0.7–2.2 0.5–2.0	$Z = -0.963 \ p = 0.05$
Family members (n = 17)	Pre family work CORE Post family work CORE	0.89 0.70	0.1–2.8 0.03–2.4	Z = -1.562 p = 0.118

Statistically significant difference shown in bold.

significant differences in days spent in A&E or hospital before and after FI (see Table 4 for comparisons).

CORE measure. Paired CORE data was been collected for 8 patients and 16 family members. CORE outcomes were significantly lower after FI for patients (mean 1.03) than before FI (mean 1.43). There was no significant difference in family members' CORE outcomes before and after FI (see Table 5).

# Discussion

Overall, only 9% of the CMHT caseload was referred for FI; many had been under mental health services for a substantial period of time before receiving FI. This study reports on a subset of this group who had had more than five sessions and were two years post therapy, focusing on demographic information about who engaged, features of the intervention received and acute service outcomes.

Who engaged with the service

The sample was ethnically diverse, reflecting the diversity of the borough. South Asian families were proportionally over-represented in total referrals compared to the community teams' caseloads overall, which is an interesting finding and may reflect South Asians' proactive help-seeking style that has been shown elsewhere (Ghali et al. 2013).

White ethnicity families were referred to the FI service the most, but these families also had the highest opt-out rate, suggesting that the referral was motivated by referrer perception rather than the families themselves requesting FI. Black ethnicity families were over-represented in the CMHTs compared to the borough population, but were comparatively under-represented in referrals. In relation to engagement, 26% of black families who were referred received the recommended 10 sessions or more, compared to 29% and 21% of Asian and white families respectively who were referred. This suggests black families' barriers to receiving FI might relate to problems at the referral stage rather than families opting out.

Edge et al. (2016) described the need for culturally adapted FI in order to facilitate better access for people from African-Caribbean backgrounds. Following a series of focus groups, Edge & Grey (2018) described the importance of collaboration and 'shared learning' (p. 490) as one way to address power imbalances and adapt FI. The current study suggests that the process by which black families come to FI is also important to explore as well as the content of the intervention itself.

In our study sample, 28% of cases (n = 8) had a family history of mental health problems (documented family history and/or multiple patients in one family), which may indicate greater complexity to the intervention. This warrants further investigation, as there may be implications for the experience and skill required of the family workers to manage more complex family situations, such as multiple patients being involved in the intervention.

Another feature of the sample, that may also reflect complexity, was that 77% had received (or been referred for) individual therapy before, during or after FI. This revealed that some people receive both therapies whilst potentially there were people in the CMHTs not being offered either. This raises a question about fair access to psychological therapy and factors influencing this, including referrer perception of likely engagement, as well as

possible concern about level of need. This highlights a dilemma over whether to prioritise engaging with those who have had therapy before and may be more likely to engage with FI, or to seek out those who have previously been reluctant to have therapy or may have been otherwise overlooked. Further research is needed to explore influences on the referral process.

#### Features of family intervention received

The local implementation strategy involved staff from different professional backgrounds trained in BFT coworking together and attending group supervision. Most families were seen by a care co-ordinator co-working with a clinical psychologist, although five families were seen by paired care co-ordinators who were recently trained in BFT and therefore novice practitioners. The sample was too small to determine whether there was any relationship between type of co-working pair and outcome, though the inexperience of some practitioners may have influenced their ability to adhere effectively to the FI model. Onwumere et al. (2016) reviewed FI delivery and outlined some of the problems care co-ordinators face in protecting adequate time to access regular supervision and build FI experience.

The majority of the sample received NICE compliant FI, regarding time frame and numbers of sessions. However, there was a substantial number of families referred who, at various stages, opted out or were not seen. Understanding reasons for this was beyond the scope of this study, but it may reflect wider processes influencing the course of family work, such as the complexities of engaging families in FI.

#### Outcomes of family intervention

We found that overall, the number of admissions spent in acute care was not significantly reduced following FI. One outlying case had a long admission in the two years following FI. This family was seen by two less experienced care co-ordinators. The notes described atypical FI provision, with a total of five sessions delivered over a five-week period. Given that families are more often seen on a fortnightly basis, these weekly sessions may reflect a family approaching crisis from the outset, although this was hard to determine from the information collected.

When this outlier was removed, the sample showed a significant reduction in time spent in acute care. In particular, there followed a significant reduction (p=0.05) in the amount of time spent under home treatment team (HTT) care. HTT can be used to prevent admission by increasing community care provision, and also as a means of enabling earlier discharge from hospital care as a form of community treatment with increased support. The reduction in HTT seen in this study may reflect families applying skills that were learned during BFT to mediate crises. This

mediation may be particularly important during periods of HTT, as the family is likely to be more closely involved and, in many cases, living with the patient. Brennan et al. (2016) described how families are adversely affected (to the extent of feeling traumatised themselves) following difficult acute admissions, so the period of support from HTT reflects a window of opportunity at a crucial time. Families in their sample also reported that they were more likely to contact services for help if they had previously felt well supported so this may be another mechanism through which FI can help.

41% of the sample had not spent any time in acute services in the two years before or after FI, reducing the extent to which the sample as a whole could reflect improvement. This connects with a study by Garety et al. (2008) in which the mixed nature of the group (in terms of symptom severity and stage of wellness) appeared to obscure the picture of change following FI. The finding appears to reflect the duality of referral decision-making whereby some cases appeared to have less severe courses of illness and thus may have been more likely to engage, and some referrals with more severe courses who were being referred after not responding to other treatment options. The sample was too small to explore this further but would be interesting to understand as this would have implications for the nature of the work as well as the expectations regarding outcomes.

Paired CORE data was only available for less than a third of the sample, reflecting the difficulties of collecting outcome measures in routine practice, particularly for families (Stratton et al. 2010). The significant reduction seen in the available scores for patients suggests that there were improvements in wellbeing for this group. However, there is potential for bias in the missing data as the people who did not do as well may not have completed the outcome measure, for example, due to early drop out.

There were more paired outcomes for family members, which showed a non-significant reduction in scores. The mean pre and post CORE scores were both below the clinical cut-off, suggesting that this measure is unlikely to be sensitive to change in relatives' experience. Two relatives scored higher than the clinical cut off before and after FI, highlighting that some relatives experienced high levels of distress, which indicates a need for carer focused interventions, as recommended elsewhere (Kuipers et al. 2010).

#### Clinical implications

Research suggests that 33% of people with multi-episode psychosis are in regular contact with their families (Garety & Rigg 2001), but only 9% of the community teams' caseloads were referred, suggesting that access to FI in routine practice remains limited. The reasons for this are beyond the scope of this study, but the observed tenden-

cies in referral behaviour raise questions about how referrers make judgements about who might benefit. The service intends to explore this decision-making in future projects. The relatively lower referral rate for black ethnicity families is a key area to follow up, given that once referred, these families seemed to follow similar engagement trends as other ethnic groups. The service intends to review its outcome measure implementation, in relation to suitability of CORE for family members and collection processes. The study supports the feasibility of NICE-compliant FI being offered in routine practice, with tentative indications that this may contribute to reduced time in acute care, if not number of admissions.

#### Limitations

The FI approach in this study was informed by behavioural family therapy, but no measure of adherence was used and there may have been some variation in how the model was applied. While this may be an artefact of FI in routine practice, it affects the extent to which conclusions can be drawn about therapeutic model.

The study was particularly limited in ascertaining outcomes from FI. The study used the number of admissions and time in acute services as an outcome measure, however there may have been people who relapsed who did not access acute services, whilst others may have accessed acute services for reasons other than relapse, such as titration of medication. It is also possible that cases were initially referred following a period of difficulty, meaning that the time period after FI may have been a return to normal functioning that would have occurred regardless, rather than as an outcome of the intervention. A large proportion of the sample had also received individual therapy, so it is not possible to say that any outcomes were attributable specifically to FI. In addition, there were some service changes over the two year follow up period (e.g. the opening of a triage ward) which may have affected use of acute care (Stanton et al. 2012).

The benefits of FI are likely to be broader and more complex than this study design can ascertain and may in fact be more intricately explained by those who have received the intervention themselves. Therefore, the service has also conducted a qualitative exploration to complement this analysis (LC, MG & JA in prep.). Qualitative feedback on this project, obtained from interviews undertaken by a carer, was largely positive and suggested changes had occurred in family relationships, which would not have been discernable in the current study.

As a service evaluation this study did not incorporate a control group, which may have enabled comparisons with those who were not referred for FI; nor did it consider intention to treat analyses for those families who opted out, which would have reduced the potential for false

positives. The study was limited by its small sample and its heterogeneity, and this skew required non-parametric statistical analysis of outcomes. The sample was also too small to explore influences on outcome such as practitioner roles and background, so it remains to be established what level of experience is required to achieve desired outcomes. The study used clinical records as a method of collecting information, and while this enabled an accurate account of demographics and acute service use, this was limited in offering a deeper understanding of the underlying processes involved in accessing FI and in relation to outcome.

#### **Conclusions**

Barriers persist in accessing FI in routine practice, and may be greater in the case of people from black ethnicities. The results of this study suggest that BFT-informed FI can be delivered in routine practice. We found modest indications of positive outcomes following FI but the small, heterogeneous sample and absence of a control group, means that only very tentative conclusions can be drawn. Using clinical records to evaluate FI in routine practice can offer rich information in examining demographics and features of the intervention but the outcomes are more difficult to review.

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