**Appendix Table E-12. Descriptions of family interventions in randomized controlled trials with relapse as an outcome**

| **Study, Year** | **N Intervention**  **N Control** | **Description of Intervention** |
| --- | --- | --- |
| Barrowclough, 1999,  Sellwood 2001, 2007 | 38  39 | The planned intervention period was 24 weeks; sessions took place in the caregiver’s homes. All patients in the study were allocated a family support worker from the volunteer organization Making Space. The services of this support worker included providing information, giving advice on benefits, advocacy, emotional support, and practical help. The frequency and nature of contact with the support worker was decided by mutual agreement between caregiver and support worker. The integrated treatment program attempted to combine three treatment approaches: motivational interviewing, individual cognitive behavior therapy, and family or caregiver intervention. Patients and carers in the treatment group were offered specific psychosocial interventions. The focus, content and quantity of the interventions were determined by a systematic assessment of caregiver needs for psychosocial interventions, measured using the relatives' version of the Cardinal Needs Schedule. Three broad types of interventions are differentiated: problem-solving techniques; cognitive-behavioral interventions; and individual cognitive behavioral interventions with patients with psychosis. |
| Barrowclough, 2001 | 18  18 | The planned intervention period was 9 months; sessions took place in the caregivers’ and patients’ homes, except when patients or caregivers expressed a preference for a clinic-based appointment (one individual in the integrated care group expressed this preference). All patients in the study were allocated a family support worker from the volunteer organization Making Space. The services of this support worker included providing information, giving advice on benefits, advocacy, emotional support, and practical help. The frequency and nature of contact with the support worker was decided by mutual agreement between caregiver and support worker. The integrated treatment program attempted to combine three treatment approaches: motivational interviewing, individual cognitive behavior therapy, and family or caregiver intervention. |
| Bradley, 2006 | 25  25 | The multiple-family-group procedure was followed with minimal variation. Consumers and caregivers were provided up to three single-family joining sessions (described below) and then invited to attend two half-day multiple-family psychoeducation sessions. The family psychoeducation sessions provided information about schizophrenia using the approach described by Anderson and colleagues. The sessions gave family members the opportunity for informal social networking. Topics included the nature of the illness, treatment approaches (medication and psychosocial), consumer and family needs, common family reactions to illness, common problems that consumers and families face, and guidelines about what the family can do to help. The education was provided to the families by psychiatrists, psychologists, social workers, and occupational therapists. Each group of six or seven consumer-caregiver pairs was then invited to participate in a multiple-family group with two trained group leaders; groups met every other week for 12 months. |

| **Study, Year** | **Description of Control** | **Treatment Duration and Number**  **of Sessions** | **Target or Primary Outcome** |
| --- | --- | --- | --- |
| Barrowclough, 1999,  Sellwood 2001, 2007 | Family support worker | 10-20 sessions over 24 weeks | Relapse |
| Barrowclough, 2001 | Routine care in the context of the National Health Service of Great Britain  consists of psychiatric management by the clinical team, coordinated through case management and including maintenance neuroleptic medication, monitoring through outpatient and community follow-up, and access to community based rehabilitative activities, such as day centers and drop-in clinics. All of the patients in the integrated treatment program also received routine care. | 29 sessions over 9 months | Global function |
| Bradley, 2006 | The case management intervention that was provided to all participants and that constituted the control condition consisted of regular appointments with a case manager and doctor to assess mental health and to provide medication and individual psychosocial rehabilitation on the basis of consumers' needs. Appointment frequency was every 2 to 3 weeks on average, and the sessions lasted from 30 minutes to 1 hour. Family contact was provided on an individual basis as required for all participants in the control and treatment groups. Family contact consisted of phone or direct contact and focused on providing psychoeducation, monitoring the consumer's mental state, and giving general support. Case management for Vietnamese participants in the control group was provided by a Vietnamese bilingual case manager when possible or with the use of Vietnamese interpreters. | 26 sessions over 12 months | Relapse, clinical and social  function |

| **Study, Year** | **N Intervention**  **N Control** | **Description of Intervention** |
| --- | --- | --- |
| Buchkremer, 1995 | 67  32 | The relatives' groups met every 2 weeks and were guided by an experienced psychiatrist/psychologist. They started with a contact phase (one meeting), followed by psychoeducational training which covered the provision of information on the illness and treatment plus training in symptom assessment. It comprised two phases: an information phase (two to three meetings) and a problem-solving phase (about seven meetings). The problem-solving skills were aimed at imparting general competence in problem solving to make it possible to develop strategies for coping with difficult situations, irrespective of any current problem. In the last phase (after 10 meetings), topic-centered personal therapy of the relative was emphasized, but psychoeducation was continued if requested by the relatives. |
| Carra, 2007 | 26  25 | Weekly meetings with an information group composed of 16-18 relatives for 24 sessions (1.75 hours per session) using an informative approach. Contents and goals are mainly derived from the model of the relatives group (Leff, 1989) but the preliminary in-home individual family sessions. Curricula include: etiology, positive symptoms, negative symptoms, mood disorders, problem behaviors, medical and psychiatric treatment, denial and non-compliance, interpersonal and social issues, relationship with family, education, independence and dependence, resources and benefits. Educational tools include lectures, videos and leaflets. The second element comprises weekly meetings for 48 sessions (1.5 hours per session) over 2 years with a support group made up of 8-9 relatives who have previously attend the information group. The first phase involves training on communication and coping skills, stress identification and management, and multiple family group-based problem solving, basically derived from the second stage of the psychoeducational multiple family group approach. This usually occurs during the first year. The second phase emphasized mutual support and consists of deliberate efforts to mould the group into a social network than can persist for an extended period and satisfy family needs for social contact, support, and ongoing monitoring. Expansion of the families' social networks occurs through problem solving, direct emotional support, and out-of-group socializing, all involving members of different families in the group |
| Dyck, 2002 | 55  51 | Patients assigned to multiple-family group treatment received standard care plus the group treatment. Because the clinicians who provided the group treatment typically were not the case managers for the patients in the group, it was necessary to ensure that they communicated regularly with the case managers about changes in patients' functional status, medication problems, or service needs. Multiple-family group treatment was intended to improve illness management, social support, and coping skills for the patient and family members. The approach was based on the previous research reported by McFarlane and colleagues. Treatment interventions were designed to educate the family and patients about the biological underpinnings of schizophrenia and engage them in the treatment process by using a standardized protocol of videotapes, lecture, and written guidelines. Treatment components including ongoing support, formal clinical problem solving, and expansion of social support networks. |

| **Study, Year** | **Description of Control** | **Treatment Duration and Number**  **of Sessions** | **Target or Primary Outcome** |
| --- | --- | --- | --- |
| Buchkremer, 1995 | 2-year group pending therapy. Relatives' groups were then implemented (although for only 8 sessions). | 26 biweekly meetings over 1 year  with an additional 2 year followup | Hospitalization |
| Carra, 2007 | Usual care | 72 weekly sessions over > 2 years | Hospitalization, relapse,  compliance with community mental health care, employment |
| Dyck, 2002 | Patients assigned to standard care received usual services, including medication management, case management, and, for some patients, therapeutic and rehabilitation services. A treatment team consisting of a case manager, a nurse, a psychiatrist, and a social worker delivered the mental health services. The team provided clinical case management services and out-of-facility services as needed. | Weekly sessions over 2 years | Hospitalization |

| **Study, Year** | **N Intervention**  **N Control** | **Description of Intervention** |
| --- | --- | --- |
| Falloon, 1981  (1982) | 20  19 | The family-management approach recognizes that effective community after-care of schizophrenia requires both optimal drug therapy and a supportive milieu. The family-treatment approach was designed to train patients and their parents to reduce environmental stress effectively. All family-therapy sessions were conducted in the home. This served to enhance generalization of learning to family life and to minimize failure to keep appointments. The first two session were devoted to educating the patient and family about the nature, course, and treatment of schizophrenia. Schizophrenia was presented as a major mental illness with both biologic and psychosocial components. The notion that families somehow "cause" schizophrenia was refuted, but it was pointed out that families can play an important part in improving the course of the illness. Considerable attention was given o discussing the rationale for maintenance of neuroleptic medication. Subsequent family sessions were devoted to reducing existing family tensions and improving the problem solving skills of the family in coping with the causes of stress. The strength and weakness of the family group were pinpointed, and major deficits became the focus of subsequent sessions. Specifically, behavioral reversal, modeling, feedback, and social reinforcement were used to enhance skills in the expression of positive and negative feelings, reflective listening, requests for behavioral change, and reciprocity of conversation. Each family was taught a structured problem-solving method in which it was encouraged to convene a family meeting whenever an issue arose, on order to discuss and specify the exact nature of the problem, list and consider alternative solutions, and select and implement the consensual "best" solution. In most families the therapist merely assisted the family in its structured problem-solving efforts, but if patients had persisting symptoms of schizophrenia or major discord was observed, additional specific strategies were employed. These included methods to improve marital relationships, to deal with unacceptable behavior, and to expand the social contacts of any family member. |
| Garety, 2008 | 28  28 | Family intervention emphasized improving communication, offering discussion of up-to-date information about psychosis, problem-solving, reducing criticism and conflict, improving activity, and the emotional processing of grief, loss and anger. There was a particular focus on relapse prevention, including how family member might understand warning signs and agree on appropriated intervention, including medication |
| Glynn, 1992 | 21  20 | Behavioral family therapy provided patients and their families with education about schizophrenia, communication skills, and problem-solving training to improve the family's ability to cope with stress. These three components were provided sequentially. Behavioral family therapy techniques include instruction, role reversal, modeling, social reinforcement, and homework tasks. The study protocol called for 25 behavioral family therapy sessions to be held with families over a 12-month period on a declining contact basis. Overall, a mean of 21 behavioral family therapy sessions were actually held. |
| Goldstein, 1978 | 52  52 | A crisis-oriented six-session family therapy was devised, directed at the following sequence of objectives: (1) the patient and  his family are able to accept the fact that he has had a psychosis; (2) they are willing to identify some of the probable precipitating stresses in his life at the time the psychosis occurred; (3) they attempt to generalize from that to identification of future stresses to which the patient and his family are likely to be vulnerable; and (4) they attempt to do some planning on how to minimize or avoid these future stresses. |

| **Study, Year** | **Description of Control** | **Treatment Duration and Number**  **of Sessions** | **Target or Primary Outcome** |
| --- | --- | --- | --- |
| Falloon, 1981  (1982) | The comparison treatment was clinic-base, individual supportive psychotherapy.  It was our intention to provide individual treatment comparable to the best available at well-staffed community after-care clinics. In addition to receiving maintenance pharmacotherapy and rehabilitation counseling, individually treated patients were educated about the nature, course, and treatment of schizophrenia and assisted in their efforts to cope with problems of everyday living. Although the issues addressed in treatment were similar to those that arose in the family treated group, the problems were death with primarily from the patient's perspective. | Weekly visits for 3 months the  biweekly visits for 6 months then monthly visits thereafter evaluated at 9 months | Stress management |
| Garety, 2008 | Usual care | 20 sessions over 9 months | Relapse, remission |
| Glynn, 1992 | Customary care services to all subjects were provided by a special Veteran’s Health Administration outpatient clinic treatment team consisting of 4 psychiatrists, 2 social workers and 1 clinical nurse specialist. All members of the team were blind to treatment assignment. This team provided monthly clinical evaluation and medication management, vocational and rehabilitation referrals, and crisis intervention services. Outpatient services available included training in social and independent living skills, and a variety of recreational and occupational therapy groups and vocation rehabilitation services. | 25 sessions over 12 months | Relapse, work adjustment |
| Goldstein, 1978 | No therapy | 6 weeks | Relapse |

| **Study, Year** | **N Intervention**  **N Control** | **Description of Intervention** |
| --- | --- | --- |
| Herz, 2000 | 41  41 | Program for relapse prevention: (1) education for patients and family members about the process of relapse in schizophrenia  and how to recognize prodromal symptoms and behaviors; (2) active monitoring for prodromal symptoms by treatment team members, patients, family members and others in frequent contact with patient; (3) clinical intervention within 24-48 hours of prodromal episode (4) 1-hour weekly supportive group therapy emphasizing improving coping skills or individual supportive therapy sessions if patients refused group treatment and (5) 90-minute multifamily psychoeducation groups that family members were encouraged to attend biweekly for 6 months and monthly thereafter. |
| Hogarty, 1986 | 30  45 | Our family approach was designed as an education and management strategy intended to lower the emotional climate of the home while main training reasonable expectations for patient performance. As frequently indicated to us by many relatives, this strategy should not be formally designated as "family therapy." Rather, through the provision of formal education about the disorder and strategies for managing more effectively, family members become allies in the treatment process as their anxiety and distress are decreased. More traditional attempts to promote disclosure, "insight," or direct modification of family systems, including the resolution of intergenerational and marital issues, were, for the most part, avoided. For ease of communication, we refer to the process as family treatment. The goal was to reduce both the positive and negative symptoms of schizophrenia that might be associated with the extremes of stimulation contained in either the therapeutic process or family life. Treatment sought to increase the stability and predictability of family life by decreasing the family's guilt and anxiety, increasing their self- confidence, and providing a sense of cognitive mastery through the provision of information concerning the nature and course of schizophrenia as well as specific management strategies thought to be helpful in coping with schizophrenic symptoms on a day-to-day basis. |
| Hogarty, 1997 | 24  24 | Family psychoeducation/management. Family therapy was provided by the other two full-time master’s-level psychiatric nurse clinical specialists and by one part-time master’s-level psychologist. These included the three broad phases of joining, survival skills training and reintegration within the home, and reintegration into the community. The principal modification to the family therapy approach was a change in didactic content that reflected issues of importance to the families of first-episode patients, such as diagnostic uncertainty and variable prognosis. (27% [Number=26] of patients who lived with family in trial 1 were first-episode patients.) |

| **Study, Year** | **Description of Control** | **Treatment Duration and Number**  **of Sessions** | **Target or Primary Outcome** |
| --- | --- | --- | --- |
| Herz, 2000 | Individual supportive therapy and medication management | 6 months biweekly  psychoeducation and monthly thereafter, weekly group therapy evaluated at 18 months | Relapse |
| Hogarty, 1986 | Drug-maintained control group | Biweekly then monthly for 2 years | Relapse |
| Hogarty, 1997 | Supportive therapy | 1-2 visits per month for 3 years | Patient adjustment |

| **Study, Year** | **N Intervention**  **N Control** | **Description of Intervention** |
| --- | --- | --- |
| Kopelowicz, 2012 | 64  54  60 | The multifamily group-standard consisted of 3 components: (1) three initial “joining" sessions conducted separately with each family, (2) a 1-day (6- hour) multifamily “Survival Skills” educational workshop, and (3) multifamily group sessions. The joining sessions were offered to each family (without the patient) to introduce the family to the therapist of the multifamily group sessions and to educate them about the need for ongoing treatment. The sessions also helped the family identify and overcome the obstacles to pursuing outpatient treatment. The Survival Skills Workshop provided verbal and videotape information about the etiology, biology, genetics, symptoms, and treatment of schizophrenia. It was conducted in elementary school–level Spanish by 2 clinicians and one study author. Following the workshop, each cohort began their multifamily group sessions twice monthly for 12 months (24 sessions total). The first 3 sessions consisted of (1) introducing the participants to one another without a formal discussion of the illness, (2) discussing how schizophrenia had affected each of their lives, and (3) teaching problem-solving skills. Participants learned a 6- step problem-solving process: define the problem, generate possible solutions, evaluate each, select one, implement it, and evaluate its outcomes. The subsequent 21 group sessions started with a brief “caring and sharing period” followed by group discussion. In multifamily group-adherance, the joining sessions, the Survival Skills workshop, and the first 3 sessions were performed in the same manner as the multifamily group-standard approach. After the session on problem-solving skills, the remaining 21 bimonthly multifamily group-adherance sessions differed from the multifamily group-standard by focusing on specific obstacles to maintaining medication adherence guided by the Theory of Planned Behavior constructs. These obstacles were identified through individualized interviews with patients using the Theory for Planned Behavior Inventory (see Kopelowicz et al. for a complete description). Finally, the problem-solving activity in the multifamily group-adherance was particularly relevant in addressing perceived behavioral control because the Mexican American patients’ relatives typically control resources, such as time and money needed to implement a solution. Other families within the multifamily group often generated a wide range of solutions by recounting their successful and unsuccessful attempts to solve the same or similar problems. |
| Leff, 1982 | 12  12 | The package of social interventions. The education program: This consisted of four lectures on the etiology, symptoms, course and treatment and management of schizophrenia. Initially four visits were made, one for each topic, but after a few relatives had been instructed in this way we decided it would be preferable to give two lectures at a time. Following each lecture, we allowed unlimited time for the relative to ask questions. The relatives' group: the group was deliberately set up so that the therapists acted as facilitators. Both high expressed emotion and low expressed emotion relatives were encouraged to bring their problems and their solutions to the meeting and share them with others in a similar position. The purpose of this was to enable them to learn about coping strategies of which they were unaware, and finally to help them try a different approach at home. The focus of the group was thus on potential or actual difficulties that relatives experienced, and not primarily on interpretations of the relatives' own behavior. This latter was more useful in discussions between the professionals about the group process that occurred after each group meeting. Family sessions: Because the relatives' group was not appropriate for dealing with the whole range of problems or for dynamic work, and because patients were excluded from it, we felt that it needed to be complemented by sessions with the whole family. |
| Leff, 2001 | 16  14 | Two sessions of education about schizophrenia plus techniques for improving communication within the family, reducing  relatives' criticism and over-involvement, lowering contact between patient and high expressed emotion relatives, increasing the social networks of family members and setting realistic objectives. The approach includes cognitive and behavioral elements as well as techniques from strategic and systemic family therapy |
| Linszen, 1996 | 37  39 | Behavioral family intervention including psychoeducation, communication training and the development of problem solving  skills were the main components |

| **Study, Year** | **Description of Control** | **Treatment Duration and Number**  **of Sessions** | **Target or Primary Outcome** |
| --- | --- | --- | --- |
| Kopelowicz, 2012 | Usual care | 24 sessions over 12 months | Medication adherence,  hospitalization |
| Leff, 1982 | Routine outpatient care | 4 sessions education + biweekly  relatives group for 9 months + 1 to  25 family sessions | Relapse |
| Leff, 2001 | 2 education sessions | Bi weekly then monthly sessions  over one year | Relapse |
| Linszen, 1996 | Psychosocial intervention | 18 sessions over 12 months | Relapse |

| **Study, Year** | **N Intervention**  **N Control** | **Description of Intervention** |
| --- | --- | --- |
| Mayoral, 2015 | 44 44 | The famly psychoeducation intervention carried out for the group subject to treatment consisted of 24 sessions, which involved, at least, the patient and a key relative, apart from other direct relatives who wanted to participate in the sessions. Sessions lasted approximatedly 60 minutes and were distributed into weekly sessions during the first quarter, fortnightly sessions during the 3 subsequent months and monthsly sessions during the remaining 6 months. The total intervention period lasted 12 months. The content of the treatment programme included 4 modules whose objectives were the following: basic information about the disease and its treatment; assessment of needs and family relations; training on communication skills; and problem facing and solving |
| Merinder, 1991 | 23  23 | An 8-session intervention using a mainly didactic interactive method and focusing on the following headings:  1. Introduction  2. What is schizophrenia? Diagnosis, prognosis, symptoms  3. What causes schizophrenia?  4. Medication: effect and side effects  5. Psychosocial treatment  6. Stress and early signs of relapse, emergency plan  7. What can you and your family do about it?  8. Laws and regulations  The programme was standardized with a manual for group leaders, overhead presentations and a booklet for participants, to increase comparability of the intervention between centers. Further, teachers had regular meetings with the aim of increasing the commitment to the intervention protocol. Patient and relative interventions were conducted separately, with group sizes in both patient and relative groups of five to eight participants. The programme was the same for both patients and relatives. Sessions were weekly. |
| Tarrier, 1988 | 31  32 | Education program (2 sessions), stress management (3 sessions), goal setting (8 sessions) |
| Valencia, 2007 | 43  39 | Psychosocial skills training focusing on (1) symptom management, (2) medication management, (3) social relations, (4)  occupational management, (5) money management, (6) couple relations, (7) family relations (48 sessions); family therapy consisted of psychoeducation (8 sessions) and problem solving (4 sessions) |
| Vaughan, 1992 | 18  18 | Relatives' counseling. Therapists attempted to (1) form an alliance with relatives (2) increase stability and predictably of family life by decreasing family guilt and anxiety, increasing self-confidence and providing a sense of mastery through providing information about schizophrenia. In addition, an attempt was made to improve the relatives' problems solving and communication skills. |

| **Study, Year** | **Description of Control** | **Treatment Duration and Number**  **of Sessions** | **Target or Primary Outcome** |
| --- | --- | --- | --- |
| Mayoral, 2015 | Normal standard treatment | 24 sessions over 12 months | Hospitalization |
| Merinder, 1991 | The usual treatment provided in community psychiatry, i.e.,  psychopharmacological treatment, psychosocial rehabilitation efforts and to some extent supportive psychotherapy | 8-sessons | Relapse, compliance,  knowledge of schizophrenia, satisfaction with services |
| Tarrier, 1988 | Routine care without specialist intervention | 13 sessions over 9 months | Relapse |
| Valencia, 2007 | Usual care | 48 weekly sessions for  psychosocial skills training and 12 sessions for family therapy | Relapse, hospitalization,  positive and negative symptom, psychosocial and global functioning, treatment adherence |
| Vaughan, 1992 | Standard after-care which consisted of outpatient appointments every 2 to 4  weeks for medication and support | 10 weekly sessions | Relapse |

**Please see Appendix B. Included Studies for full study references**