German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) (ed.)

S3 Guidelines in Psychiatry and Psychtherapy

Guideline Psychosocial Interventions for People with Severe Mental Illness

Short Version

Long version including complete reference list and further information see website
http://www.dgppn.de/dgppn/struktur/referate/versorgung0/s3-leitlinie-psychosoziale-therapien-bei-schweren-psychischen-erkrankungen.html

Editor

This *S3 Guideline Psychosocial Interventions forPeople with Severe Mental Illness* was co-ordinated by the German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) and is jointly edited by DGPPN and the organizations mentioned below.

The following organizations participated in the consenus process:

ACKPA	Arbeitskreis der Chefärztinnen und Chefärzte der Kliniken für Psychiatrie und Psychotherapie an Allgemeinkrankenhäusern in Deutschland (clinical directors of general hospital psychiatric units)
AKP	Aktionskreis Psychiatrie e.V. (non-governmental psychiatric and mental health organization)
AOK	AOK Bayern (statutory health insurance, Bavaria)
APK	Aktion Psychisch Kranke e.V. (non-governmental organization with funding by federal ministry of health)
ARGE BFW	Arbeitsgemeinschaft Deutscher Berufsförderungswerke (work rehabilitation)
BAG BBW	Bundesarbeitsgemeinschaft der Berufsbildungswerke (vocational training and work rehabilitation)
BAG BTZ	Bundesarbeitsgemeinschaft Beruflicher Trainingszentren (work rehabilitation and integration)
BAG GPV	Bundesarbeitsgemeinschaft Gemeindepsychiatrischer Verbünde e.V. (federal organization of community care networks)
BAG KT	Bundesarbeitsgemeinschaft Künstlerischer Therapien (arts therapies)
BAG RPK	Bundesarbeitsgemeinschaft Rehabilitation psychisch kranker Menschen (federal organization on rehabilitation for people with severe mental illness (SMI))
BAG UB	Bundesarbeitsgemeinschaft für Unterstützte Beschäftigung e.V. (supported employment federal organization)
BAG WfbM	Bundesarbeitsgemeinschaft Werkstätten für behinderte Menschen e.V. (federal organization for workshops for people with SMI)
BALK	Verband Bundesarbeitsgemeinschaft Leitender Pflegepersonen e. V. (nursing management organization)
BApK	Bundesverband der Angehörigen psychisch Kranker / Familien-Selbsthilfe Psychiatrie (federal informal carer assocation)
BAPP	Bundesinitiative ambulante psychiatrische Pflege e.V. (community psychiatric nursing non-governmental organization)
BDK	Bundesdirektorenkonferenz Psychiatrischer Krankenhäuser (organization of clinical directors of psychiatric hospitals)
BDP	Berufsverband Deutscher Psychologinnen und Psychologen e. V. (professional organization of psychologists)
BFLK	Bundesfachvereinigung Leitender Krankenpflegepersonen der Psychiatrie (BFLK) e. V. (nursing management organization)
BKMT	Berufsverband für Kunst-, Musik- und Tanztherapie (professional organization of arts, music and dance therapy)
	Berufsverband der Soziotherapeuten e.V. (professional organization of sociotherapists)
BPE	Bundesverband der Psychiatrie-Erfahrenen e.V. (federal service user organization)
BPtK	Bundespsychotherapeutenkammer (professional organization of psychotherapists)
BVDN	Berufsverband Deutscher Nervenärzte e.V. (professional organization of

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BVDP	Berufsverband Deutscher Psychiater (professional organization of office-based psychiatrists)
bvvp	Bundesverband der Vertragspsychotherapeuten e.V. (professional organization of psychotherapists)
	Dachverband Gemeindepsychiatrie e.V. (national community mental health care organization)
DBSH	Deutscher Berufsverband für Soziale Arbeit e.V. (federal organization for social work)
DGBP	Deutsche Gesellschaft für Biologische Psychiatrie (German society of biological psychiatry)
DGGPP	Deutsche Gesellschaft für Gerontopsychiatrie und –psychotherapie e.V. (German society for old-age psychiatry and psychotheray)
DGKJP	Deutsche Gesellschaft für Kinder- und Jugendpsychiatrie, Psychosomatik und Psychotherapie e.V. (German society for child and adolescent psychiatry and psychotherapy)
DGPE	Deutsche Gesellschaft für Psychoedukation e. V. (German society for psychoeducation)
DGPPN	Deutsche Gesellschaft für Psychiatrie, Psychotherapie und Nervenheilkunde (German Association for Psychiatry, Psychotherapy and Psychosomatics)
DGS	Deutsche Gesellschaft für Suizidprävention e.V. (German society for suicide prevention)
DGSP	Deutsche Gesellschaft für Soziale Psychiatrie e.V. (German society for social psychiatry)
DHS	Deutsche Hauptstelle für Suchtfragen e.V. (substance use disorder organization)
DTGPP	Deutsch türkische Gesellschaft für Psychiatrie, Psychotherapie und psychosoziale Gesundheit e.V. (Turkish-German society for psychotherapy)
DVE	Deutscher Verband der Ergotherapeuten e.V. (German association for occupational therapists)
DVGS	Deutscher Verband für Gesundheitssport und Sporttherapie e.V. (German sport therapy organization)
VKD	Verband der Krankenhausdirektoren Deutschlands e.V. / Fachgruppe Psychiatrie (organization of hospital managers in psychiatry)

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Delaration of interest

All members of the project group and expert panel members and participants of the consenus group declared conflicts of interests using a form (see Guideline Method Report). Representatives of pharmaceutical or health sector companies were not involved in the drafting of this guideline.

Duration of validity

This guideline is valid for five years starting with the publication date. DGPPN will coordinate an update.

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DGPPN funded the process of preparation and drafting of this guideline. All expert and consensus group contributions were pro bono.

Versions of guidline

The S3 Guideline Psychosocial Interventions in SMI will be available in the following versions:

- **Short version** (German and English)
- **Long version** including background texts regarding evidence, complete reference list and chapters on migration issues, psychosocial interventions in children and adolescents and in old age plus a chapter outlining the mental health care system in Germany
- **Guideline report** (website)
- **Patient guideline** for patients and carers
- **Waiting room version** (information flyer on S3 guideline)

All versions are accessible via
http://www.dgppn.de/dgppn/struktur/referate/versorgung0/s3-leitlinie-psychosoziale-therapien-bei-schweren-psychischen-erkrankungen.html

Table of contens

1. Aims and scope of guideline

Treatment guidelines are compilations which reflect the current state of scientific evidence and treatment knowledge; they should help therapists and treatment teams to ensure adequate care. This S3 guidline of DGPPN was drafted according to the standards of AWMF and is based on the methodolgy of preparing S3 evidence-based guidelines. It has a few special characteristics. The guideline method report describes the drafting process (see website http://www.dgppn.de/dgppn/struktur/referate/versorgung0/s3-leitlinie-psychosoziale-therapien-bei-schweren-psychischen-erkrankungen.html).

The **target group** of this guideline comprises people with severe mental illness (SMI). This group includes people with particular and mostly multi-professional care needs, and the range of diagnoses includes

- schizophrenia and related disorders (ICD-10: F20-F22, F25),
- severe affective disorders (mania, bipolar affective disorder, severe and recurrent depressive disorders (ICD-10: F30-F31, F32.2-F32.3 and F33);
- severe personality disorder (ICD-10: F60-F61),
- severe anxiety disorders and obsessive compulsive disorder (ICD-10: F41 and F42).

The target group includes people with one of these diagnoses who have been afflicted with a mental disorder for a minimum of two years and have experienced functional impairment due to their mental disorder. Their utilization of the mental health care system and social service systems is often intensive.

The reason for focusing on a target group with a range of different mental disorders is that members of this group share specific care needs, and this justifies a guideline on psychosocial interventions looking at a diagnostically heterogenous group with similar multiprofessional care needs.

Psychosocial interventions as defined in this guideline aim at improving the individual potential of people with SMI to cope with their daily lives including all activities of daily living, social and communal living, work and activities related to social roles. Psychosocial interventions may target social and communication skills that are important in achieving social integration. Psychosocial interventions can be described on different levels, some interventions can be described as **system interventions** in that they include a team of mental health professionals using a set of professional rules in a given context, catchment area and team configuration to provide multiprofessional patient care. There are **individual psychosocial interventions** which are more limited in scope and, among others, target illness knowledge, occupational skills, daily living skills, sports and creative skills.

The following psychosocial interventions were considered:

System interventions

- multiprofessional community mental health teams
- case management
- work rehabilitation and integration
- residential services for people with severe mental illness

Individual interventions

- psychoeducational interventions for patients and carers, peer-to-peer interventions and trialogue
- social skills training

- arts therapies
- occupational therapy
- sports and movement therapies

Self-help and related concepts are dealt with in a separate chapter. Basic components or paradigms of psychosocial interventions such as recovery orientation, therapeutic milieu and empowerment were considered **cross-sectional themes** in this guideline; they influence the work of mental health professionals by shaping the approach to their work and reflect basic aspects of professional approach and perspective. Migration aspects, child and adolescent mental health and old age mental health were also considered briefly (in three chapters) with respect to their importance for psychosocial interventions. The methodology of the search for evidence is described in the guideline report (see website http://www.dgppn.de/dgppn/struktur/referate/versorgung0/s3-leitlinie-psychosoziale-therapien-bei-schweren-psychischen-erkrankungen.html). Some chapters including the chapter on the German mental health care context are included in the long version only.

This guideline is intended to **support professional treatment planning in caring for the following target group**:

- persons in the general adult age range (18–65) with schizophrenia, severe affective disorders, severe depression or severe bipolar disorders, severe personality, anxiety and obsessive compulsive disorder fulfilling criteria of a severe mental illness and their carers
- mental health professionals (such as psychiatrists, psychotherapists, primary care physicians, psychologists, occupational therapists, social workers, mental health nursing staff, staff in other mental health services, legal guardians and others working in the mental health care system)
- other persons and agencies in the mental health care and social system who are involved in organizing and delivering care for people with severe mental illness

I Foundation of psychosocial interventions

(References: see long version)

Tasks in the treatment and rehabilitation of people with SMI include the provision of physical health care, activating resources, strengthening of motivation, strengthening and developing competencies and capabilities for an indepent living and the organization of daily lives, and in organizing the treatment process. It is important to identify the interventions adequate at each stage. This chapter looks at some founding characteristics of the treatment process.

The current evidence base it not sufficient to formulate recommendations for practice.

1. Therapeutic relationship

1.1. Empowerment

Empowerment is an important founding stone on the way to recovery.

Recommendation 1:
People with severe mental illness have a right to be perceived with specific desires and individual care needs. They should be empowered to organize their daily lives and determine their individual living circumstances (empowerment).
Level of recommendation: CCP

Enlarged Recommendations:

The concept of empowerment includes a person's control over their lives, involvement in activites of daily living and the pursuit of individual aims. The empowerment approach requires all mental health staff to adopt an activating approach that focuses on the autonomy of decision making of patients in all personal decisions including the choice of treatment setting and keyworker and the means of treatment and rehabilitation.

This process can strengthen self-respect and social recognition in society. These are related with the process of recovery. In studies with specific training programmes it was shown that the empowerment process can be strengthened in the course of mental health treatment by encouraging users to take responsibility and be active. Training of mental health staff can facilitate the process of empowerment. Social contacts and improved quality of life increase the level of empowerment.

1.2. Shared decision-making

Clinician-patient-communication is an important component of mental health care. The evidence suggests that good communication between physician and patient can increase satisfaction with treatment and treatment adherence. Good patient-doctor-communication will improve the level of trust and the likelihood of treatment success. Laine et al. (1996) found shared decision-making to increase the level of confiding and trust in the treatment relationship. Shared decision-making involves patient and mental health professional as active protagonists who arrive at a joint decision.

Key components of the process of shared decision-making include problem definition, explaining alternative solutions and risks (by professional) and the joint decision process. A range of determinants influence the treatment process. A step-wise approach is possible:

1. Inform about decision being required
2. Shared responsibility is emphasized
3. Inform about treatment options
4. Inform about advantages and disadvantages of options
5. Explore understanding, thoughts and expectations
6. Explore preferences
7. Negotiate the decision
8. Agree on joint decision
9. Agree on measures to implement decision

2. Milieu therapy and therapeutic community

Milieu therapy comprises measures that contribute to the therapeutic atmosphere in the course of the treatment process. Milieu therapy provides a context in which treatment interventions can be implemented and treatment aims are reached. Mileu therapy is important in shaping therapeutic environments particularly in inpatient and day-hospital care and in any treatment environment that focuses on daily living activities.

Recommendation 2:
In all psychosocial interventions knowledge on the optimum therapeutic milieu should be taken into consideration.
Level of recommendation: CCP

Therapeutic communities are a particular form of milieu therapy. They are based on the tenet that a community of patients who support each other in the treatment process can be a therapeutic ingredient in itself, and such therapeutic communities can strengthen patient autonomy.

Recommendation 3:
Treatment in a therapeutic community can be considered for certain people with severe mental illness. This concept is not restricted to inpatient care settings.
Level of recommendation: CCP

3. Recovery – aim of psychosocial interventions

Recovery is a personal process of change in individual values, beliefs, convictions and aims. It is the itinerary to a satisfying, hopeful and socially fulfilling life within limits that may be defined by illness. Recovery includes the development of a sense in life in the process of overcoming the sequels of mental disorder. **Recovery orientation** implies for the mental health professional to strengthen patient hope and the belief in improvement and recovery.

Hope is an important component in the recovery process, it can be defined as the belief that recovery is possible. Finding and maintaining hope can comprise the following:

- Recognize and accept that there is a problem,
- define priorities,

- strive towards change,
- concentrate on strengths rather than weaknesses,
- look forward and build on optimism,
- acknowledge small steps forward and
- believe in one's self.

Empowerment and involvement of service users are important components of the recovery process. This can be strengthened in a range of ways. Respect of the patient and encouraging self-control over one's lives and future are important. Mental health professionals should strive towards an environment that will strengthen self-confidence and self-respect of patients.

Statement 14:
„Treatment aim is the patient free of illness symptoms who manages to organize an independent life and considers therapeutic interventions in the light of risks and benefits. This requires an overall treatment plan, active user participation, collaboration with informal carers, co-ordination and co-operation of all services involved, and integrating non-professional and self-help systems. All treatment and rehabilitation steps should be part of an overall treatment plan and should match the individual and phase-specific aims defined in the course of multi-professional and community-based care."

Treating people with SMI, in the case of lack of illness insight, may confront patient and carer with difficult decisions. Individual patient rights must be considered, and risks to self and others must be balanced against patient autonomy.

Statement 15:
„The *Declaration of Madrid* (1996) [Shiffmann and Helmchen 1998] formulates that treatment against the patient will cannot be administered except for situations in which not administering care will put the patient's or other persons' lives in danger. Treatment must always be in the best interest of the patient."

II System interventions

1. Multi-professional community care models

(Complete references: see long version)

In community care for people with severe mental illness there is a range of care models which have, to varying degrees, been implemented in the German care system.

Such care models can be defined according to

(1) acuity of disorder
(2) degree of team-orientedness of the model
(3) degree of emphasis on home visits and care provided in other places, and
(4) illness severity (Becker et al. 2008) (see fig. 1).

Team-based care in the form of community mental health teams (CMHT) for people with SMI is provided in a definded catchment area and may involve both home visits and team-based interventions. Crisis intervention and home treatment (HT) and assertive community treatment (ACT) define intensive community care interventions by specialized mobile treatment teams. Home treatment teams provide care for a limited period of time (approx. 2 – 6 weeks), an assertive community team provides community-based care with a strong team focus for extended periods of time. Assertive community treatment has been shown to be effective particularly in people with difficulties in remaining in care and with a danger of dropping out of long-term care.

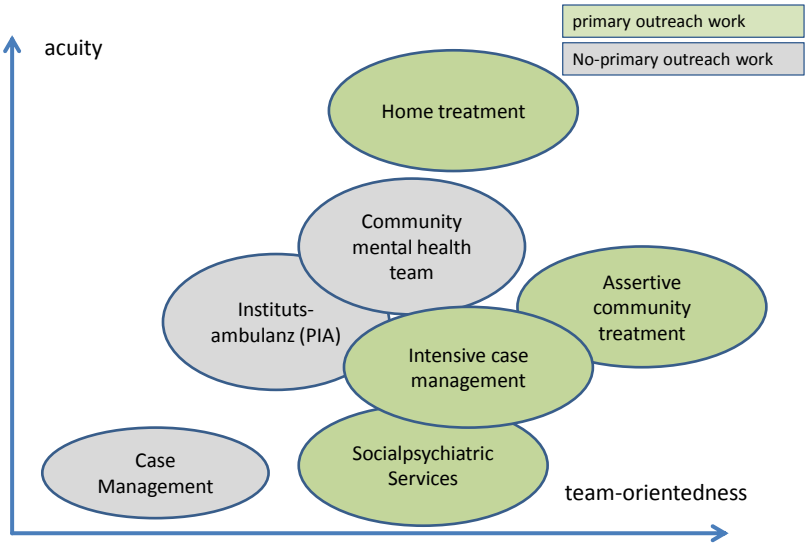

Figure 1: Community mental health care approaches (modified after Becker et al. 2008)

Case management (CM) can be considered a long-term model of community-oriented care aiming at the co-ordination of a range of psychiatric and psychosocial interventions in meeting various care needs. CM is often provided by an individual case manager, i. e. without a strong team base. However, the model of intensive case management (ICM) describes a team-based community mental health care model with a low case load per keyworker of <1:20. ICM comprises home visits, regular patient meetings, multiprofessional

team-based care, joint responsibility of team members for all patients and a focus on social skills training. The model is not easily distinguished from ACT. In this guideline the two concepts of ICM and ACT are referred to as ACT which describes a specific form of community care delivery with historic significance.

In the German mental health care context *psychiatrische Institutsambulanzen* (psychiatric outpatient clinic) and *sozialpsychiatrische Dienste* (socialpsychiatric service) are available across the country. Both are team-based, and the care provided can, in many ways, be compared with community-based care models in other countries where the CM approach is used. Implementation of crisis intervention and home treatment or ACT is so far restricted to some model service sites.

2. Multiprofessional community psychiatric teams

2.1. Multiprofessional community mental health teams

Community mental health teams (CMHT) emphasize the team element and the multi-professional input in care provision. They support complex community-based packages of care for people with severe mental illness.

Evidence from randomized controlled trials on CMHT is exclusively from the UK. CMHT were developed and widely implemented in England and Wales. Transfer of results of such trials to other countries, e. g. Germany, is not trivial.

Evidence	**Meta-analyses** -Malone (2007) (Cochrane Review) (1): *Inclusion of 3 studies* -Meta analysis of NICE schizophrenia guideline (2009) (2): *Inclusion of 3 studies*

There is strong evidence that treatment by a CMHT will reduce the likelihood of inpatient treatment episodes by about 20 percent (1) and increase patient satisfaction (1). There is no superiority in terms of treatment discontinuation or mortality (see table 1).

Table 1: Effects of community mental health teams

	Meta analysis Cochrane Review	Meta analysis NICE schizophrenia guideline
	Malone 2007 (1)	NICE 2009 (2)
Illness-associated variables		
↓ mortality	~	~[2]
↓ symptomatic impairment	+[1]	+[2]
Treatment-associated variables		
↓ inpatient admissions	++	+[2]
↓ inpatient treatment duration	~[1]	n.a.
↓ treatment discontinuation	~	~[2]
Social inclusion/exclusion		
↑ social functioning	~[1]	+[2]
↓ police contacts	-	n.a.
Satisfaction		
↑ patient satisfaction	++	n.a.

cost effectiveness		
↑ cost effectiveness	++[1]	n..a.

++: significant advantage in experimental group compared to control group;
+: trend to superiority without significant difference in experimental group compared to control group, or skewed data
~: results comparable in both groups;
-: disadvantage in experimental group compared to control group
n.a.: not assessed
↓: decrease, ↑: increase
[1]: data based on individual study; [2]: insufficent evidence

Multi-disciplinary CMHT have not been fully implemented across the country in **Germany**. Office-based psychiatrists, social psychiatric services, *psychiatrische Institutsambulanzen* and some public health services provide elements of care. These often comprise only parts of the care package provided by specialist CMHT.

Recommendation 4:
Multidisciplinary psychiatric community care teams should be established for the treatment of people with severe mental illness in defined regions. ***Grade A, Evidence level Ia***

Recommendation 5:
Those teams should treat people with SMI in the community and, when required, also at home. ***Grade A, Evidence level Ia***

2.2. Acute treatment outside hospital (crisis intervention and home treatment)

Acute treatment in the community setting and in a patient's home, in particular, involves treating a patient in an acute illess episode using the resources of a multi-professional crisis intervention and home treatment team, and this is an alternative of acute standard care in an inpatient setting. Acute care is provided in the usual daily living environment for 24 hours on seven days a week, and it is provided by a multi-professional team.

Current **evidence** on crisis intervention and home treatment teams is almost exclusively from international studies from English-speaking countries. Individual findings refer to comparisons between different types of acute care (home treatment versus inpatient treatment settings), and treatment as usual was usually acute care in a traditional inpatient psychiatric setting.

Evidence	**Meta-analyses**	**Individual studies (RCTs)**
	-Joy et al. 2006 (Cochrane Review) (3): *Inclusion of 5 studies* -Meta-analysis of NICE schizophrenia guideline 2009 (2): *Inclusion of 5 studies*	-Johnson et al. 2005 (4) -McCrone et al. 2009 (5)

The evidence shows that home treatment teams in caring for people with acute episodes of severe mental illness have some advantages in reducing hospital stays, increasing satisfaction of patients and carers, and there may be advantages in terms of cost effectiveness (see table 2).

Table 2: Effects of crisis intervention and home treatment

	Meta-analysis Cochrane Review	Meta-analysis NICE schizophrenia guideline	Randomised controlled study
	Joy et al. 2006 (3)	NICE 2009 (2)	Johnson et al. 2005 (4) McCrone et al. 2009 (5)
Illness-associated variables			
↓ mortality	~	~	~
↓ symptomatic impairment	+	+	+
↑ functioning level	~	+	n. a.
Treament-associated variables			
↓ inpatient admissions during acute phase	n. a.	++	++
↓ inpatient re-admission rates	++	~	++[1]
↓ inpatient treatment duration	n. a.	++	++
↓ treatment discontinuation	++	++	n. a.
Social inclusion/exclusion			
↑ employment	~	n. a.	n. a.
↓ deliquency, times in prison	~	n. a.	~
Satisfaction and burden			
↓ carer burden	++	n. a.	n. a.
↑ patient satisfaction	++	++	+
↑ carer satisfaction	++	n. a.	n. a.
Cost effectiveness			
↑ cost effectiveness	+	++	++

++: significant advantage in intervention group compared to control group;
+: trend to superiority without significant difference in intervention group compared to control group, or small sample
~: results comparable in both groups; n.a.: not assessed
↓: decrease ↑: increase
[1]: within 6 months after acute episode (and start of intervention)

The implementation of crisis intervention and home treatment in **Germany** lags behind other countries. There are some innovative service models (see long version).

Recommendation 6:
People with SMI in acute episodes should have the opportunity to be treated at home by mobile crisis intervention teams. ***Grade A, Evidence level Ia***

Treatment decisions always need to bear in mind circumstances. Serious risk to self or others may argue strongly against care by home treatment teams, intoxication in the context of substance use disorders or other psychiatric emergency situation would often not allow care provision by a home treatment team. Several factors may argue against care provision outside hospital and the provision of acute care in an inpatient setting (Cotton et al. 2007). Lack of co-operativeness may be an argument, and so may serious self-neglect and danger to self. Compulsory admissions in the past may reduce the likelihood of adequate response by a home treatment team. Acute treatment at home requires an initial assessment of how care can best be provided. Informal carers and family relations are important. The multi-professional character of the care provided by crisis intervention and home treatment team and the flexibility of response that can be provided are important ingredients of this care model. Home treatment teams should have access to acute treatment inpatient beds.

2.3. Assertive community treatment

Assertive community treatment (ACT) teams provide intensive care to people with SMI. Support is provided in daily living activities, in the work environment, in medication management, crisis management, involvement of carers, monitoring and strengthening of physical health care and support with socio-economic and social issues. ACT teams explore problem solving strategies and strengthen social skills.

The **evidence** form randomized controlled trials on ACT is mostly from the USA and from Great Britain. A few studies have been published in continental Europe and Canada. It is difficult to transfer study results to the German care context. This guideline focuses specifically on the ACT approach. Thus, it uses the review by Marshall and Lookwood (1998). This review was subsequently substituted by the review by Dieterich et al. (2010) which uses the concept of ICM rather than ACT.

Evidence:	**Systematic reviews and meta-analyses**	**Individual studies (RCTs)**
	-Marshall & Lockwood 1998 (Cochrane Review) (6): *inclusion of 26 studies* -meta-analysis of NICE schizophrenia guideline 2009 (2): *inclusion of 22 studies* -Ziguras & Stuart 2000 (7): *inclusion of 35 studies* -Zygmunt et al. 2002 (8) *inclusion of 7 studies* -Nelson et al. 2007 (9): *inclusion of 8 studies* -Coldwell & Bender 2007 (10): *inclusion of 6 studies* -Drake et al. 2008 (11): *inclusion of 22 studies* -Cleary et al. (12) 2008: *inclusion of 5 studies*	-Harrison-Read et al. 2002 (13) -Killaspy et al. (14;15) 2006/2009 -Macias et al. 2006 (16) -Schonebaum et al. 2006 (17) -Gold et al. 2006 (18) -Sytema et al. 2007 (19)

In principle, it can be stated that treatment by an ACT team reduces the likelihood of inpatient readmissions and reduces the duration of inpatient treatment. Patients receiving care from an ACT team experience advantages in terms of independent living and improved employment rates. The ACT model reduces the likelihood of treatment drop-out. ACT is an effective treatment model ensuring long-term community based care for people with SMI. Its strengths include care for patients who utilize services with high frequency and intensity. In this target group ACT teams can have advantages in terms of cost effectiveness (see table 3).

Table 3: Effects of assertive community treatment (6)

	Effects of ACT compared to		
k=number of studies included	Treatment as usual k=17 studies	Inpatient treatment k=3 studies	Case management k=6 studies
Illness-associated variables			
↓ mortaliy	~	~	~
↓ symptomatic impairment	~	~	~
Treatment-associated variables			

↓ inpatient admissions	++	++	n.a.
↓ inpatient treatment duration	++	++	n.a.
↓ treatment discontinuation	++	~	n.a.
Social inclusion/exclusion			
↑ social functioning	~	~	~
↑ employment	++	++	~
↓ homelessness	++	++	++
↓ delinquency, times in prison	~	++	~
Satisfaction and quality of life			
↑ patient satisfaction	++	~	++
↑ quality of life	~	~	~
Cost effectiveness			

++: significant advantage in experimental goup compared to control group;
+: trend to superiority without significant difference in experimental group compared to control group, or small sample
~: results comparable in both groups
n.a.: not assessed or insufficient evidence
↓: decrease, ↑: increase

Further findings emphasizing the effectiveness of intensive care by an ACT team have been reported by Ziguras et al. (2000) (7) and in the NICE schizophrenia guideline (2). Other studies on ACT focus on specific questions or look at defined patient populations. ACT is considered a very strong model for the target group of patients with SMI and homelessness (9,10). Integrated ACT unites community mental health interventions such as ACT and interventions specifically targeted at substance use disorders; there are positive findings regarding treatment motivation, social integration, improved quality of life and reduced inpatient treatment days (11,12).

Recommendation 7:
An assertive treatment approach should especially be available if treatment terminations are likely to occur. ***Grade A, Evidence level Ia***

Recommendation 8:
Especially homeless people with SMI should have access to assertive community treatment. ***Grade A, Evidence level Ia***

Findings from individual studies suggest that patients in the experimental groups were more likely to remain in contact with the care system and were more satisfied with treatment. Strengths of the ACT approach included reductions in the likelihood of treatment discontinuation, and there are advantages in terms of symptom reduction, improved social functioning and individual residential situation.

In **Germany** there is currently no comprehensive implementation of ACT models except for very few model services.

Recommendation 9:
People with SMI should have the opportunity to be treated by assertive community treatment teams in their usual residential environment over longer time periods and for longer than the duration of the acute illness. ***Grade A, Evidence level Ia***

Recommendation 10:
In addition to the demand-oriented and flexible treatment, an essential task of multidisciplinary psychiatric community care teams should be a shared responsibility for provision of healthcare and psychosocial services; thereby guaranteeing continuity of care.

The objective is treatment tailored to the individual needs of patients with the necessary intensity throughout the treatment process. In relation to the principle, "outpatient care has precedence over inpatient care", hospital treatment should be avoided as far as possible. ***Level of recommendation: CCP***

Enlarged recommendations for action

Structural quality
Community based care by a multiprofessional team requires:

- a **sectorization** of care provisison with a defined catchment area
- **accessability** of treatment within one hour using public transport
- **home visits** supplementing care at team base
- **mobile crisis intervention** over 24 hours on seven days a week to manage crises
- **home-based and assertive care** that can be provided over an extended period of time
- **case load** corresponding with the level of care required.

Multiprofessional teams comprise psychiatrists, neuropsychiatrists, psychosomatic medicine specialists, psychologists, psychological psychotherapists, mental health nursing staff, occupational therapists, social workers, sports and movement therapists, arts therapists. Co-operation with primary care physicians and **staff qualification** are important.

Acute danger of harm to self or others, acute physical disorder of any kind including central nervous system disorders, aggressive behaviour, lack of cooperation, adverse psychosocial circumstances may suggest that inpatient care rather than community care is required.

In Germany there are different forms of organizing community-based care; **psychiatrische Institutsambulanzen** are one model, **sozialpsychiatrische Dienste** and **office-based psychiatrists** may sometimes provide packages of care that are similar to community-based care.

Care provision needs to comprise diagnostic work-up, all physical health/somatic examinations, psychotherapeutic, psychosocial and rehabilitative measures.

Care networks:
Complex packages of care require coordination of services provided by different professionals. Networks of care require cooperation of different health care providers, collaboration between different care systems (e. g. mental health treatment, social services), **networking** around target groups, regional collaboration and structural collaboration between different health care providers.

3. Case Management

Case Management (CM) is a strategy to organize different components of care. A case manager helps to coordinate the utilization of medical, psychiatric and psychosocial interventions. There is an overlap of CM with ACT and other community-based care models. Ensuring continuity of care is a key element of CM.

The **evidence** on CM is based on several systematic reviews and the metaanalysis of the NICE schizophrenia guideline. Several metaanalyses have also examined ICM. The review by Marshall et al. (2000) was withdrawn following the publication of a later review

(Dieterich et al. 2010). In analyzing the original model of CM the Cochrane Review by Marshall et al. (2000) was used in this guideline. Studies are mostly from USA; there are some European studies.

Evidence:	**Meta-analyses** *Case Management* -Marshall et al. 2000 (Cochrane Review) (20): *Inclusion of 10 studies* -Ziguras & Stuart 2000 (7): *Inclusion of 35 studies*	**Meta-analyses** *Intensive Case Management* -Burns et al. 2007 (21): *Inclusion of 29 studies* -Dieterich et al. 2010 (Cochrane Review) (22): *Inclusion of 38 studies* -Meta-analysis of NICE schizophrenia guideline 2009 (2): *Inclusion of 13 studies*

Findings on CM require critical discussion. Some of the findings are inconsistent. There are difficulties in defining the CM approach. There are strenghts of CM in terms of treatment satisfaction and continuity of care (avoiding treatment drop-out). CM was associated with an increase in the number of inpatient admissions, duration of inpatient treatment was reduced. There were no significant differences regarding clinical or social parameters or quality of life and general wellbeing. Findings regarding cost effectiveness are inconclusive (see table 4).

Table 4: Effects of case management on various parameters

	Marshall et al. 2000 (20)	Ziguras & Stuart 2000 (7)	Burns et al. 2007 ICM (21)	Dieterich et al. 2010 ICM (22)	NICE 2009 schizo-phrenia ICM (2)
Illness-associated variables					
↓ mortality	~	n.a.	n.a.	~	n.a.
↓ symptomatic impairment	~	++	n.a.	~	~
↑ general wellbeing	n.a.	n.a.	n.a.	+	n.a.
Treatment-associated variables					
↓ inpatient readmissions	-	-	n.a.	+	n.a.
↓ inpatient treatment duration	-	++	++	++	n.a.
↓ treatment discontinuation	++	++	n.a.	++	++
↑ compliance with medication	++	n.a.	n.a.	+	n.a.
Social inclusion/exclusion					
↑ social functioning	~	++	n.a.	~	~
↑ employment	n.a.	n.a.	n.a.	~	n.a.
↓ delinquency, times in prison	~	n.a.	n.a.	~	n.a.
Satisfaction and quality of life					
↑ patient satisfaction	n.a.	++	n.a.	++	n.a.
↑ carer satisfaction	n.a.	++	n.a.	n.a.	n.a.
↑ quality of life	~	n.a.	n.a.	~	n.a.

↓ carer burden	n.a.	++	n.a.	n.a.	n.a.
Cost effectiveness					
↑ cost effectiveness	n.a.	+	n.a.	++	n.a.

++: significant advantage in experimental group compared to control group
+: trend to superiority without significant difference in experimental group compared to control group, or small sample
~: results comparable in both groups
-: disadvantage in experimental group compared to control group
n.a.: not assessed
↓: decrease, ↑: increase

A systematic review tried to clarify inconsistencies regarding ICM (21). Reduction of inpatient treatment days was greater if ICM teams used the ACT approach. Higher fidelity to the ACT model was associated with a reduction in inpatient treatment days. The baseline level of inpatient treatment days in a patient population, however, was more important in determining reductions in inpatient days. The authors concluded that the effects of introducing ICM in a catchment area are related with the level of hospitalization prior to the introduction of ICM.

CM models used in **German mental health care practice** are an important element in mental health care delivery. However, there are no adequate studies in the German context.

Definition of Case Management (CM):

- CM implies co-ordination of different components of care by members of the treatment team.
- CM defines a key person coordinating the care process.
- CM attempts to integrate care across sectoral boundaries.
- CM puts patients' interests first.

CM is a heterogenous care model. Where community services are not routinely available CM can be helpful in organizing patient-oriented care.

Recommendation 11:
Case management cannot be recommended for the routine care of every patient, but should be applied after checking specific preconditions (e.g. low density of community-psychiatric services and/or high inpatient care utilization). ***Grade B, Evidence level Ia***

Enlarged treatment recommendations

Against the background of a heterogenous mental health care system in Germany elements of CM may be useful in many different places, and CM is implemented across the country. The care co-ordinator or key person is generally a staff member in one of the psychosocial services providing care , and he/she is in charge of planning care. Liaising with other services including primary care physicians and specialized somatic health services is included. Measures and resources targeting social integration are part of the package of care co-ordinated by most case managers. Office-base psychiatrists use elements of the case management model.

4. Work rehablitation and work integration

(Complete references: see long version)

Severe mental disorders have negative effects on work participation and labour market integration of patients. Mental disorders can lead to an end of professional training, loss of job and early retirement. Although most people with mental disorders want to work, international and German studies show that unemployment is disproportionately high in this target group. Considering the negative consequences of unemployment among people with SMI it is clear that measures to increase job integration have high priority.

Strategies of work rehabilitation or integration include all psychosocial interventions that systematically aim at an improvement in the work and employment situation of a person with mental illness. Not all people with mental disorders can reach the aim of a competitive job. Professional rehabilitation should not only target the general labour market, there may be other more protected job opportunities.

In the USA there has been great interest in studies comparing **pre-vocational training** (train and place approach) with the model of supported employment (place and train approach). While the pre-vocational training approach defines various phases from occupational therapy to practical placements to general labour market jobs, supported employment defines direct placement in a competitive job as the prime target. The **supported employment (SE)** approach requires clear motivation to work in the patient and skills in supporting people with mental illness in their jobs. **Individual placement and support (IPS)** is a manualized version of the supported employment model.

The **clubhouse model** is a special form of pre-vocational training that was developed in the USA in the 1950s. This model is closely linked to self-help with professional support. A clubhouse is a service jointly led by clients and professionals. The aim is for clients to organize their social activities, share in household chores and move towards labour market participation.

Germany has a range of work rehabilitation services for people with mental illness, there is little implementation of the supported employment model. Some of the rehabilitation services in Germany have gradually adopted elements of the supported employment approach.

The **evidence** on work rehabilitation is mostly from English-speaking countries. A meta-analysis of the Cochrane Collaboration was followed by three systematic reviews and the NICE schizophrenia guideline. Individual studies were also analyzed. In assessing pre-vocational training non-randomized controlled studies were also evaluated.

Evidence:	Systematic reviews and meta analyses: -Crowther et al. 2001 (Cochrane Review) (23): *Inclusion of 18 studies* -Twamley et al. 2003 (24): *Inclusion of 11 studies* -Bond et al. 2008 (25): *Inclusion of 11 studies* -Campbell et al. 2009 (26) *Inclusion of 4 studies* - Meta-analysis of NICE schizophrenia guideline 2009 (2): *Inclusion of 20 studies*	**Evidence from individual studies** ***Randomized controlled studies*** -Cook et al. 2005 (27;28) -Mc Gurk et al. 2005/2007 (29;30) -Howard et al. 2010 (31) -Burns et al. 2007 (32) -Schonebaum et al. 2006 (17) ***Controlled studies on supported employment and training since 1990:*** -Bond et al. 2001 (33) -Rüsch et al. 2004 (34) -Holzner et al. 1998 (35) -Watzke et al. 2009 (36) ***Studies on work therapy since 1990:*** -Längle et al. 2006 (37)

With the exception of a study by Howard et al. (2010) studies on **supported employment** showed SE to be more effective in achieving labour market placements, and this was the case particularly when manualzied types of SE (IPS) were used. The consensus is that by using SE the rates of competitive employment among people with SMI can be about doubled. Times in employment are longer, and higher monthly income is achieved (table 5).

Table 5: Effects of prevocational training and supported employment on various outcome measures (23)

	***Pre-vocational training* vs.**		***Supported employment* vs.**	
k=number of studies included	Inpatient treatment as usual k=3 studies	Community-based treatment as usual k=5 studies	Community-based treatment as ususal k= 1 study	Pre-vocational training k=5 studies
Social inclusion/exclusion				
↑ labour market placement	+[1]	~[2]	~[4]/++[5]	++
↑ any form of employment	++[1]	~[3]	++[4]	n.a.
↑ average hours worked per month	~	n.a.	n.a.	++
↑ average monthly income	++	n.a.	++	++
↑ participation in programme	+	~	+	~
Treatment-associated variables				
↑ discharge from hospital	~	n.a.	n.a.	n.a.
↓ re-admission to hospital	n.a.	+	~	n.a.
Illness-associated variables				
↑ self-esteem	n.a.	~	n.a.	~
↑ quality of life	n.a.	n.a.	n.a.	~
Cost effectiveness				
↓ cost of intervention	n.a.	n.a.	n.a.	-/~[6]
↓ total cost of medical treatment	n.a.	+	(-)	+/~[6]

++: significant advantage in experimental group compared to control group; +: trend to superiority without significant difference in experimental group compared to control group, or small sample; ~: results comparable in both groups; -: disadvantage in experimental group compared to control group; n.a.: not assessed or insufficient evidence

↓: decrease, ↑: increase; [1]: FU after 8 months, [2]: FU after 18/24 months; [3]: FU after 3/6/9/12/18 months; [4]: FU after 12 months; [5]: FU after 24/36 months; [6]: findings from different studies

The RCT by Howard et al. (2010) failed to show a superiority of SE in an English context. In the EU-funded EQOLISE-Study, a European multicentre study, there were non-significant within-centre effects in the study centres in the Netherlands (Groningen) and Germany (Ulm).

EQOLISE (32) was a randomized controlled trial in six European centres, one of the centres being Ulm/Günzburg (Germany). Participants in the intervention group received IPS, a manualized variant of SE. Participants of the comparison group received standard rehabilitation services of the respective catchment areas. IPS was superior to standard care in terms of having obtained a job on the general labour market, numbers of hours worked, numbers of days in work and duration of work contracts obtained. Study participants in the IPS group achieved better work related outcomes than participants of the comparison group, and there were no disadvantages in the IPS group in terms of days spent in hospital. On the contrary, members of the IPS group spent fewer days in hospital.

These findings suggest that more research on the predictors of rehabilitation success is required. Clearly, SE has a strong evidence base.

Recommendation 12:
For people with SMI who want to work in competitive labour markets, supported employment programs with a rapid job placement and on-site-support should be available and thus expanded. ***Grade B, Evidence level Ia***

Note: An initial vote on the level of recommendation resulted in a strong consensus for level of recommendation A. In discussing the guideline with societies involved there was a critical discussion of whether the international evidence justified such strong recommendation for the German mental health care system. It was argued that there was no sufficient evidence from Germany and that the recommendation should therefore be changed to level of recommendation B. This discussion led to a change in the level of recommendation which was agreed upon as B.

There is no doubt that a significant proportion of participants in SE programmes do not obtain a job on the general labour market. This proportion ranges from 39–66 percent (Bond et al. 2008). SE programmes should closely cooperate with mental health services. Clearly, other types of work rehabilitation are required, and there is room for pre-vocational training interventions. There are study results that suggest that the effectiveness of pre-vocational training can be improved by providing financial incentives. Psychological interventions accompanying PVT can also improve the effects.

Recommendation 13:
Pre-vocational training programs ("first train then place") should also be available, given that for a subgroup of people with SMI the primary labour market is not (yet) a realistic goal. Financial incentives increase the effectiveness such offers. Effectiveness is also increased when motivation-building interventions are offered and when interventions bring clients into competitive employment positions as quickly as possible. ***Grade B, Evidence level Ib***

Recommendation 14:
Vocational rehabilitation should put a stronger focus on avoiding job loss. Therefore, onset of a psychiatric illness requires early inclusion of adequate services.
Level of recommendation: CCP

Recommendation 15:
Completed education / professional training are essential for people with SMI. Adequate vocational training opportunities should be available close to patients' residential

environments.
Level of recommendation: CCP

Statement 1:

Work therapy can facilitate both transition into further work rehabilitation services and integration into the labour market.

Germany has seen the development of a complex mental health care system since the 1970s. Work rehabilitation services in Germany are mostly in the pre-vocational training tradition, however, services such as *Rehabilitationseinrichtungen für psychisch Kranke (RPK)*, *berufliche Trainingszentren (BTZ)*, *Berufsförderungswerke (BFW)*, *Berufsbildungswerke (BBW)* and *Werkstätten für behinderte Menschen (WfbM)* have identified SE as an important component of care.

There are dedicated services to maintain people with health deficits, e. g. mental disorders, in jobs; such job integration services can use social welfare resources to avoid job loss. More individualized care provision is discussed. The model of the *Persönliches Budget* (ad personam budget from welfare) may help service users cover subsistence costs.

The *Rehabilitationseinrichtungen für psychisch Kranke (RPK)* are services aiming at work integration that are funded jointly by public health insurance, old age pension schemes and the unemployment office. Self-help firms exist across the country.

5. Residential services for people with severe mental illness

(Complete references: see long version)

Having a place of one's own to live is a central issue for people with mental disorders. They share similar wishes, needs and preferences regarding a place of living with people not suffering from mental health problems. However, they may require support to different degrees.

Statement 2:

In 1987 the *National Institute of Mental Health* (NIMH) defined the concept of *supported housing* as follows: Supported housing focuses on the needs and wishes of patients with severe mental illness, applies individualized and flexible rehabilitation processes and takes into consideration the right to a stable residential arrangement and a stabilization of contacts in a social network.

Supported residential arrangements offer an alternative to long-term hospitalization. Psychiatric reform in Germany has lead to a build-up of supported housing arrangements for people with mental disorders. Social inclusion and autonomy of people with mental health problems are primary aims of supported housing. Different forms of residential arrangements are used, there are individual supported living arrangements, group homes, core- and cluster residential arrangements, residential and nursing homes, transitional residential services, sociotherapeutic services and family care (residential arrangement with a family).

Although the importance of residential care for people with SMI has been recognized there is little **evidence** in this area. There are few studies, and comparability of results is limited.

Evidence:	**Systematic reviews** -Macpherson et al. 2009 (Cochrane Review) (38): *inclusion of 1 randomized controlled study* -Chilvers et al. 2006 (Cochrane Review) (39): *No studies included* -Kyle & Dunn 2008 (40): *Inclusion of 4 randomized controlled studies* -Taylor et al. 2009 (41): *inclusion of 18 studies* -Bitter et al. 2009 (42): *inclusion of 11 studies* -NICE schizophrenia guideline 2009 (2): *no studies included*	**Individual studies (RCT)** -Knapp et al. 1994 (43) **Non-randomized individual studies** *1. quasi-experimental design (comparison of different residential services)* -Priebe et al. 2009 (44) -Kallert et al. 2007 (45) *2. Dehospitalization studies* -Kaiser et al. 2001 (46) -Franz et al. 2001 (47) *3. futher individual studies* -Richter 2010 (48) -Leisse & Kallert 2003 (49)

Studies of residential services for people with SMI are inconclusive with regard to various outcome parameters. Many studies suggest that irrespective of the type of residential service supported housing arrangements can lead to a reduction in inpatient treatment days. Also, a reduction in the duration of hospitalization can be achieved by providing long-term residential services (40). Individual positive outcomes such as improvement in negative symptoms and enhancement in social networks could be demonstrated (38,40) (table 13 annex).

The Berlin Dehospitalization Study showed positive effects of dehospitalization with regard to a reduction in inpatient treatment days per year among discharged patients living in supported housing (46). Similar results were reported by the Hessen Dehospitalization Study (47) in which younger age predicted better outcome. Quasi-experimental studies and dehospitalization studies showed that the majority of patients in supported housing arrangements are male. A key outcome criterion in various studies is the improvement in quality of life. However, evidence is inconclusive. Kallert et al. (2007) showed that with an increase in the degree of institutionalization quality of life among patients deteriorated (45). In a further study no significant relationship between improvement in quality of life and supported housing arrangements was found. Severity of illness appeared to influence outcome (49). Kaiser et al. (2001) conclude that long-term improvement in quality of life among dehospitalized patients could not be shown conclusively (46). Studies suggest that institutionalization is associated with negative effects.

Recommendation 16:
Institutionalisation should be avoided: adverse effects increase and quality of life decreases with level of institutionalisation. ***Grade A.***

Note: This level of recommendation was agreed upon as the consensus group members assumed that in view of the well known and well documented negative effects of institutionalization ethical reasons suggested that future randomized controlled trials on this issue were not justified (and not required).

There is also consensus that, next to work, residential living arrangements are an important aspect of social inclusion. Impairment in social inclusion in the areas of residential living arrangements, domestic life and leisure time arrangements is part of the general health

problems among people with SMI. Early recognition of impairment helps to prevent long-term hospitalization and disintegration.

Recommendation 17:
Potential for deinstitutionalisation should be checked at regular intervals.
Level of recommendation: CCP

In conclusion, study results suggest that supported housing arrangements can have positive effects independent of the specific type of intervention. There is no evidence regarding specific relationships of individual interventions with specific patient target groups who are most likely to benefit from these residential services.

Recommendation 18:
There should be differentiated types of living/ residential arrangements with a focus on participation and autonomy. The type of support should depend on individual needs. ***Grade 0, Evidence level III***

Primary aims of supported housing are social inclusion and improved patient autonomy. An increased level of independence can be aimed at by choosing residential arrangements based in the community. In preparing transitions to supported housing arrangements social networks and the location of a group home or other residential arrangement should be taken into consideration.

Recommendation 19:
Supported living facilities should be community-based to improve social inclusion.
Level of recommendation: CCP

Extended recommendations:

Supported housing arrangements are varied, funding can be for residential support in accommodation arranged independently by the patient/user with some service providers providing both residential care and accommodation. There are also residential arrangements in group, nursing or residential homes with joint funding of residential arrangement, board and lodging. Group homes or psychiatric nursing home facilities are services often funded by social services for people with different types of impairment, nursing homes are institutions caring for people with permanent care needs.

Residential services can provide individualized support, living arrangements can be with partners or family, in a family care or in groups of people with mental health problems. Group homes use the positive effects of communal life. Case loads and staffing levels are important. There should be individualized care plans.

Decentralized residential arrangements with small residential units should be preferred. Residential care in families can be an alternative to more institutional forms of residential care.

III Individual interventions

1. Psychoeducational interventions for patients and carers, peer-to-peer models and trialogue

(Complete references: see long version)

Psychoeducation describes systematic, didactic and psychotherapeutic interventions that aim to inform patients and their carers about their illness and treatment options, to improve understanding of illness, coping and self-management. Psychoeducation has roots in cognitive behaviour therapy, it also has some overlap with psychotherapeutic interventions.

Recommendation 20:
Every person with severe mental illness has the right to obtain adequate information about the illness, its causes, the course of the disease, and various possibilities for treatment. The awareness of the patient is the basis for cooperative clinical decision making and is a prerequisite for health-improving behavior. People should obtain this information in their mother tongue.
Level of recommendation: CCP

McFarlane et al. (2003) have reviewed psychoeducational family interventions. In Germany psychoeducation treatment packages have been developed, and they often comprise 8 to 10 group sessions. There is a national workgroup on psychoeducation in people with schizophrenia, and these practical experiences have helped in developing various manuals of psychoeducation in the treatment and support to people with different types of mental disorder.

In view of the great relevance that carers attribute to the capacity to cope with an illness and the problems going along with it, concepts have been developed in which family/informal carers were integrated. Family groups and relative groups are called bifocal groups integrating patients and carers. There may also be a need for specific carer groups without patient involvement (unifocal approach).

Statement 3:
Individual carers such as parents, siblings, partners and children have different needs for support. Conflicts and questions can be addressed. Different family members have different perspectives, prevention aspects may be important among children, family burden may be important among children and partners, rehabilitative issues may be important among all family members.

Statement 4:
In providing information and building a common therapeutic style in care systems the level of cooperation between patients, informal carers and mental health professionals is important. This is an important prerequisite for open, trustful and successful cooperation of all those concerned, and on this basis treatment aims are pursued. This style of co-operation can be termed "trialogue", and it concentrates not only on the individual treatment relationship but has repercussions on general views of patient and carer needs in public discourse, on quality issues and mental health policies. Psychosis seminars (uniting mental health service users and professionals) provide a good forum to rehearse such forms of collaboration.

Recommendation 21:
Psychoeducation can also be offered a trialogue forum and psychosis seminar.
Level of recommendation: CCP

Statement 5:
Psychoeducation approaches according to the peer-to-peer model help patients and carers to strengthen alternative treatment options, increase the level of knowledge on mental health problems among participants, to discuss illness concepts and reduce carer burden.

Psychoeducation is not clearly distinct from family interventions for people with psychosis as family interventions are often based on psychoeducation intervention modules (among other elements). Family interventions have an overlap with family treatment interventions (as psychotherapeutic interventions). The current S3 guideline considers psychosocial interventions as distinct from psychotherapeutic approaches. In what follows, the focus is on psychoeducation rather than on psychotherapy. Studies looking at psychotherapeutic interventions with the focus on family interventions are included. The studies included refer mostly to patient groups with schizophrenia. There are a few studies on people with chronic bipolar affective disorder.

	Studies with primary focus on psychoeducation	**Studies on family interventions that include psychoeducation as one component**
Evidence	**Reviews and meta-analyses**	**Reviews and meta-analyses**
	-Pekkala & Merinder 2002 (Cochrane Review) (50) *Inclusion of 10 studies* -Lincoln et al. 2007 (51) *Inclusion of 18 studies* -Meta analysis of NICE schizophrenia clinical guideline 2009 (2) *Inclusion of 21 studies*	-Barbato & D'Avanzo 2000 (52) *Inclusion of 25 studies* -Pitschel-Walz et al. 2001 (53) *Inclusion of 25 studies* -Pilling et al. 2002 (54) *Inclusion of 18 studies* -Pfammatter et al. 2006 (55) *Inclusion of 31 studies* -Pharoa et al. 2006 (Cochrane Review) (56) *Inclusion of 43 studies*
	C) Individual studies (RCTs) on psychoeducation models in patients with schizophrenia -Magliano et al. 2006 (57): psychoeducation family groups -Aguglia et al. 2007 (58): bifocal psychoeducation group of patients and carers -Carrà et al. 2007 (59): psychoeducation carer groups -Gutiérrez-Maldonado & Caqueo-Urízar 2007/Gutiérrez-Maldonado et al. 2009(60;61): psychoeducation carer groups -Nasr & Kauasar 2009 (62): individual family psychoeducation -Chien & Wong 2007 (63): psychoeducation family groups -Chan et al. 2009 (64): joint psychoeducation groups for patients and carers	

	D) Individual studies (RCTs) on psychoeducation models in patients with bipolar disorders -Perry et al. 1999 (65): individual psychoeducation for patients -Colom et al. 2003/2009 (66;67): group psychoeducation for patients -Honig et al. 1997 (68): multi-family psychoeducation -Miklowitz et al. 2003 (69): family psychoeducation in patient home setting -Reinares et al. 2008 (70): psychoeducation carer groups -Rea et al. 2003 (71): family psychoeducation

Table 6 summarizes the **effects of primary psychoeducation treatment models** as compared with standard care or other active treatment approaches among people with SMI. There is a high level of variability of results, there are limitations to comparability due to heterogenous study methods. With the exception of the meta-analysis for the NICE schizophrenia guideline (2) studies point at potential positive effects of psychoeducation with respect to aquisition of knowledge, reduction of relapse risk and number of inpatient re-admissions.

Table 6: Effects of primary psychoeducation interventions from meta-analyses on various outcome parameters

			Meta-analysis NICE schizophrenia guideline 2009 (2)		
	Pekkala & Merinder 2002 (50)	Lincoln et al. 2007 (51)	Psycho-education vs. any control intervention	Psycho-education vs. standard care	Psycho-education vs. active intervention
k=number of studies included	k=10	k=18	k=16	k=8	k=8
Illness-associated variables					
↓ suicidality	n.a.	n.a.	~	~	n.a.
↓ symptomatic impairment (general)	~	+	++[1]	~	++
↑ compliance with medication	++[1]	~	++[1]	++[1]	~
↑ illness insight	~	n.a.	n.a.	n.a.	n.a.
↑ acquisition of knowledge	++[1]	++	n.a.	n.a.	n.a.
Treatment-associated variables					
↓ risk of relapse and inpatient readmission	++	++	~/(++[1])	~/(++[1])	~
↓ inpatient treatment duration	n.a.	n.a.	++[1]	++[1]	n.a.
↓ treatment discontinuation	~	n.a.	~	~	~
Social functioning and quality of life					
↑ social functioning	++	~	++[1]	++[1]	++[1]
↑ quality of life	++[1]	n.a.	n.a.	n.a.	n.a.
Carer-associated variables					
change in coping/carer burden	~	n.a.	n.a.	n.a.	n.a.
↓ high expressed emotion	++[1]	n.a.	n.a.	n.a.	n.a.

++: significant advantage in experimental group compared to control group
+: trend to superiority without significant difference in experimental group compared to control group
~: results comparable in both groups
n.a.: not assessed
↓: decrease, ↑: increase
[1]: findings based on individual data

Individual studies suggest improved adherence to medication, quality of life and social functioning. There is limited evidence of effects on inpatient treatment days and

symptomatic impairment (table 14 see annex). Psychoeducation programmes developed in **Germany** have shown long-term effectiveness (72-74).

Recommendation 22:
Structured psychoeducational programmes aimed at knowledge acquisition about the illness and reduction of relapses should be offered and integrated into a complex, long-term treatment program. The psychoeducation should be repeated as required. ***Grade B, Evidence level Ia***

Note: The level of recommendation was downgraded considering the level of evidence as the studies that were available were considered too heterogenous to justify a strong recommendation.

Positive effects of **family interventions with psychoeducation elements** from meta-analyses which focus on people with schizophrenia refer to a reduction of relapse risk and the likelihood of inpatient readmission (table 7). There are results suggesting that family interventions can reduce symptomatic impairment and inpatient treatment duration and improve medication adherence and level of social functioning. Some studies suggest that there is a reduction in subjective burden and improved family atmosphere following psychoeducation. Longer duration of intervention may be more effective than shorter periods of time, and there may be a minimum treatment duration of three months to achieve effectiveness. There are results suggesting effectiveness of unifocal psychoeducation groups (carers only) and bifocal groups (patients and carers). A meta-analysis suggests that the effects of reduced relapse risk, reduced likelihood of readmission and reduced family burden are better achieved by single-family interventions rather than multi-family groups.

Recommendation 23:
Psychoeducational programmes must incorporate the family. Dual focus, as well as single focus, approaches have been found to be effective. ***Grade A, Evidence level Ia***

Note: The use of bifocal psychoeducation groups requires consent by patients.

Table 7: Effects of family interventions with psychoeducation approach on the basis of meta-analyses, different outcome parameters

k=number of studies included:	Pitschel-Walz et al. 2001 (53) k=25	Pilling et al. 2002 (54) k=18	Pfammatter et al. 2006 (55) k=31	Pharoah et al. 2006[a] (56) k=43
Illness-associated variables				
↓ suicidality	n.a.	~	n.a.	~
↓ symptomatic impairment (general)	n.a.	n.a.	++	++[1]
↑ compliance with medicatione	n.a.	++	n.a.	++
Treatment-associated variables				
↓ risk of relapse and inpatient readmission	++	++	++	++
↓ inpatient treatment duration	n.a.	n.a.	++	++[1]
↓ treatment discontinuation	n.a.	~	n.a.	~
Social functioning and quality of life				
↑ social functioning	n.a.	n.a.	++	++[1]
Carer-associated variables				
↑ carer knowledge	n.a.	n.a.	++	n.a.
change in coping/carer burden	n.a.	++	n.a.	++[1]
↓ high-expressed emotion	n.a.	~	++	++[1]

++: significant advantage in experimental groupe compared to control group;
~: comparable results in both groups
n.a.: not assessed
↓: decrease, ↑: increase
[1]: data based on individual findings
[a]: family intervention with a minimum of > 5 sessions compared to standard care

The studies that are available on the effectiveness of **psychoeducation approaches in people with bipolar disorder** suggest that psychoeducation can have positive effects in this target group (table 8). A corresponding intervention was shown to reduce the number of relapse events, particularly the likelihood of a manic recurrence over an extended period of time. Psychoeducation including carers can increase the time interval to relapse into acute illness and can have positive effects on time course of illness. Interventions can reduce inpatient treatment days. Individual studies have shown positive effects regarding social functioning, affective symptoms and medication adherence. There have been individual studies suggesting cost effectiveness.

Table 8: Effects of psychoeducation interventions in people with bipolar disorders, individual studies with varying outcome parameters

N=number of patients included:	Perry et al.1999 (65) N=69	Colom et al. 2003[a]/2004[b]/ 2009[a] (66;67;75) N=120[a]/37[b]	Honig et al. 1997 (68) N=29	Miklowitz et al. 2003 (69) N=101	Reinares et al. 2008 (70) N=113	Rea et al. 2003 (71) N=53
Illness-associated variables						
↓ symptomatic impairment (general)	n.a.	n.a.	n.a.	++	n.a.	n.a.
↑ compliance with medication	n.a.	~	n.a.	++	~	~
Treatment-associated variables						
↓ risk of relapse and inpatient readmission	++[1]	++	n.a.	++	++[1]	++
↓ inpatient treatment duration	n.a.	++	n.a.	n.a.	n.a.	n.a.
↓ treatment discontinuation	n.a.	n.a.	n.a.	~	~	~
Social functioning and quality of life						
↑ social functioning	++	n.a.	n.a.	n.a.	n.a.	n.a.
↑ employment	++	n.a.	n.a.	n.a.	n.a.	n.a.
Carer-associated variables						
↓ high-expressed emotion	n.a.	n.a.	++	n.a.	n.a.	n.a.
↑ cost effectiveness	n.a.	++	n.a.	n.a.	n.a.	n.a.

++: significant advantage compared to control group
~: results comparable in both goups
n.a.: not assessed
↓: decrease, ↑: increase
[1]: applicable for manic episodes

Recommendation 24:
Empirical evidence for the effectiveness of psychoeducational interventions is based on studies of group settings. Psychoeducation is also possible in individual settings.
Level of recommendation: CCP

Studies on the effectiveness of **psychoeducation in patient groups with depressive disorders** refer to study groups with differing levels of illness severity. Please refer to DGPPN S3 Leitlinie Unipolare Depressionen/ Nationale Versorgungsleitlinie Unipolare Depressionen (http://www.versorgungsleitlinien.de/themen/depression/pdf/s3_nvl_depression_lang.pdf). This guideline summarizes that knowledge on illness and coping with illness and medication adherence can be improved. Psychoeducation interventions have resulted in improvements in coping with the illness, illness course and treatment outcome. Some studies have shown positive effects in psychoeducation programmes on families and carers. The guideline authors recommend psychoeducation interventions as complementing high quality treatment in the context of a comprehensive treatment plan (level of recommendation B).

The framework for psychoeducation interventions should be as follows:

- integration in comprehensive psychiatric treatment plan
- intervention should be specific to type of disorder/mental health problem
- specific carer or bifocal or family intervention sessions should be available
- psychoeducation should be provided on the basis of a manual, group reflection should be included
- different group formats are possible; groups can be either closed or open to new patients joining, format may vary according to treatment setting
- sessions should be once to twice weekly for patients and every 1-3 weeks among carers
- patient consent should be obtained when carers are invited
- individualized practice in psychoeducation interventions should bear in mind type and severity of symptoms
- stable therapeutic leadership is important
- the intervention process should be reflected on a regular basis, and external supervision is valuable

2. Social skills training

(Complete references: see long version)

Severe and chronic mental disorders are often associated with impairments in daily living and social skills which can have negative impact on the course of illness and quality of life. These deficits lead to impairments in different domains of everyday life, activities of daily living can be impaired, social relationships in families, leisure time and job settings can be impaired. Psychosocial interventions should target these deficits, patients should be strengthened in improving their social skills. Two different sets of problems are addressed by life skills training (focusing on daily living practice) and social skills training (focussing on social skills and communication).

Recommendation 25:
As severe mental illness is often accompanied by impairments in daily skills and social functions, and thus, participation in society is markedly impaired, interventions to improve social skills (self-care, family, leisure activities, work, social participation) are an important element in treatment.
Level of recommendation: CCP

Statement 6:
Without attention to basic self-care needs no autonomous daily life is possible, and social integration in family, work etc. is not possible in the absence of such skills.

There are many high-quality studies which have looked at the effects of structured social skills training, particularly among people with schizophrenia.

Evidence	**Meta-analyses** -Pilling et al. 2002 (82): *Inclusion of 9 studies* -Pfammatter et al. 2006 (55): *Inclusion of 23 studies* -Kurtz & Mueser 2008 (83): *Inclusion of 22 studies* -meta-analysis of NICE schizophrenia guideline 2009 (2) *Inclusion of 23 studies* Integrated Psychological Therapy (IPT): -Roder et al. 2006 (89) *Inclusion of 7 RCTs*	**Individual studies (RCTs)** -Horan et al. 2009 (76) -Galderisi et al. 2009 (77) -Xiang et al. 2007 (78) -Kern et al. 2005 (79) -Hogarty et al. 2004/2006 (80;81) **Individual studies (RCTs) on certain aspects of social skills training** -Silverstein et al. 2009 (84) -Glynn et al. 2002 (85) -Kopelowicz et al. 2003 (86) -Moriana et al. 2006 (87) -Granholm et al. 2007 (88)

While a meta-analysis (82) including randomized controlled trials reported no significant superiority, more evidence has accumulated in the meantime. Both social functioning and the level of social adaptation of patients can be improved (table 9, table 10 see long version in German and table 15 in annex). Effects on other outcome parameters are less homogenous.

Table 9: Effects of social skills training, meta-analyses, varying outcome parameters

	Pilling et al. 2002 (82)	Pfammatter et al. 2006 (55)	Kurtz & Mueser 2008 (83)	NICE schizo-phrenia guideline 2009 (2)	Roder et al. 2006 (89)
Illness-associated variables					
↑ social skills	+	++	++	~	n.a.
↑ social functions	++[1]	++	++	~	++
↓ symptomatic impairment (general)	n.a.	++		~	++
▪ negative symptoms			++	+	
▪ other symptoms			~	n.a.	
↑ quality of life	++[1]	n.a.	n.a.	~	n.a.
Treament-associated variables					
↓ risk of relapse and inpatient readmission	~	++[1]	++	~	n.a.
↓ inpatient treatment duration	n.a.	n.a.	n.a.	~	n.a.
↓ treatment discontinuation	~	n.a.	n.a.	~	n.a.
Further psychological variables					
↑ self-confidence	n.a.	++	n.a.	n.a.	n.a.
↑ cognitive functions	n.a.	n.a.	n.a.	n.a.	++

++: significant advantage in experimental group compared to control group, +: trend to superiority without significant difference in experimental group compared to control group, or small sample
~: findings comparable in both groups, n.a.: not assessed
↓: decrease, ↑: increase; [1]: data related to individual findings

Recommendation 26:
If social impairments are present, training of social skills should be offered to improve social competence. ***Grade A, Evidence level Ia***

Note: No sufficient consensus could be reached on this issue. Some experts (5/22 votes) voted in favour of level of recommendation B. There were doubts regarding the lack of implementation of social skills training and the transferability of results usually found among people with schizophrenia in a target group with other types of SMI limiting the generalizability of findings.

Different modifications and developments of training manuals on social skills training have focused on combinations with cognitive behaviour treatment techniques (e.g. 80,84). Positive effects were described in terms of enhancing social competencies and cognitive functioning. Using social skills training among older people resulted in advantages in the intervention group regarding social functioning level, level of independence in daily living, strengthening of self-confidence and illness insight (88). A special support to transfer skills to daily living showed positive effects on social adaptation, reduction in symptomatic impairment and of relapse risk and inpatient readmission (85-87).

Recommendation 27:
The social skills training should be adjusted to the individual needs of the client and integrated into a complex, long-term treatment program.
Level of recommendation: CCP

Statement 7:
There are findings suggesting that a combination of interventions which consider both cognitive and social functions have positive effects.

Statement 8:
There are findings suggesting that the transfer of social skills acquired in social skills training to daily living practice can be supported using ongoing interventions.

Statement 9:
Taking into consideration individual peculiarities in social skills training can enhance effectiveness.

In recent years structured manuals to **strengthen daily living skills** for people with SMI have been developed. They often focus on social skills training. There are hardly any randomized controlled studies on daily living skills training.

Evidence	**Meta-analysis** -Tungpunkom & Nicol 2008 (90) *Inclusion of 4 studies*	**Individual studies (RCTs)** -Gigantesco et al. 2006 (91)

In the few studies (mainly in small patient samples) there are some findings suggesting superiority with respect to daily living functioning. Further studies are required.

Extended recommendations:
In Germany there is widespread use of social skills training in mental health care practice. Social skills training is provided in different service contexts and by different mental health professionals. Qualification and type of staff providing social skills training vary.
The training of social skills should be provided as a systematic intervention and should take into consideration the background and care needs of patients. There should be special components of

manuals to enhance daily living transfer. Integrating carers should be aimed at. Including cognitive treatment techniques may increase effectiveness. There is a lack of effectiveness studies.

3. Arts therapies

(Complete references: see long version)

The multitude of arts therapies is substantial. Arts therapies include a range of interventions provided by therapists with an artistic qualification in a client-centred way. The task of the arts therapist is to help the patient concentrate on inner experience and inner dialogue using varied types of creative expression. Next to the approaches of art, music, dance and movement as well as theatre and drama therapy there are also poetry-oriented and word therapies, writing therapy and film therapy which are all included under the umbrella term of artistic therapies. Methods can be both receptive and active. Settings include individual and group therapy settings. Arts therapies have generic methodological aspects applying to different types of artistic expression, and there are shared theoretical concepts. Arts therapy treatment is person-centred and focusses on current relational and daily living events. The patient is an active participant contributing to the treatment process, and there is a focus on self-efficacy and responsibility.

Evidence: The studies available refer mainly to patients with schizophrenia-type disorders.

Evidence	**Meta-analyses**
	Arts therapies -Meta-analysis of NICE schizophrenia guideline of 2009 (2) *Inclusion of 6 studies*
	Music therapy -Gold et al. 2005 (Cochrane Review) (92) *Inclusion of 4 studies* -Maratos et al. 2008 (Cochrane Review) (93) *Inclusion of 1 study*
	Art therapy -Ruddy & Milnes 2005 (Cochrane Review) (94) *Inclusion of 2 studies*
	Drama therapy -Ruddy & Dent-Brown 2007 (Cochrane Review) (95) *Inclusion of 5 studies*
	Dance therapy -Xia & Grant 2009 (Cochrane Review) (96) *Inclusion of 1 study*

Current evidence on the effectiveness of arts therapies among people with schizophrenia has been scrutinized by the authors of the 2009 NICE schizophrenia guideline (2). These authors have come to a positive conclusion. Authors of other meta-analyses have been more cautious in recommending arts therapies in the routine treatment of people with SMI. In sum, there are relatively few randomized controlled studies on arts therapy interventions. Samples are relatively small.

Current results suggest that adding arts therapies to conventional treatment as usual can reduce negative symptoms among people with schizophrenia (table 11). Individual studies showed an improvement of general and social functioning, strengthening of self-confidence

and reduction in feelings of inferiority. The application of arts therapies appears to have no impact on the risk of treatment discontinuation and does not appear to improve treatment satisfaction and qualitiy of life. There are findings suggesting that effectiveness of arts therapy interventions depends on the intensity of care provided.

Table 11: Effects of arts therapies on various outcome parameters

	Arts therapies	*Art therapy*	*Music therapy*	*Drama therapy*	*Dance therapy*
k=number of studies included	Meta-analysis NICE guideline 2009 (2) k=6	Ruddy & Milnes 2005 (94) k=2	Gold 2005 (92) k=4	Ruddy & Dent-Brown 2007 (95) k=5	Xia & Grant 2009 (96) k=1
Illness-associated variables					
↓ Symptomatic impairment (general)	~	n.a.	~[1]/++[1]	n.a.	
• negative symptoms	++	++[1]	++		++[1]
• positive symptoms	~	n.a.			~
↑ general well-being	n.a.	n.a.	++[1]	n.a.	n.a.
Treatment-associated variables					
↓ treatment discontinuation	~	~	~	~	~
↑ treament satisfaction	~	n.a.	~	n.a.	~
Social functioning and quality of life					
↑ social functioning	~	~	++[1]	n.a.	n.a.
↑ quality of life	~	~	~	n.a.	~
↑ self-confidence	n.a.	n.a.	n.a.	++[1]	n.a.
↓ feelings of inferiority	n.a.	n.a.	n.a.	++[1]	n.a.

++: significant advantage in experimental group compared to control group
~: comparable findings in both groups
n.a.: not assessed
↓: decrease, ↑: increase
[1]: findings related to individual data

A study on music therapy in the treatment of people with depressive disorders resulted in a reduction of depressive symptomatology (from: 93).

Recommendation 28:
Arts therapies should be offered according to the individual needs of the patient and integrated into a complex, long-term treatment program aimed at an improving of negative symptoms. ***Grade B, Evidence level Ib***

Note: The level of recommendation was downgraded with view to the level of evidence as the studies available were considered too heterogenous to justify a strong recommendation.

Arts therapies in **Germany** are part of routine psychiatric treatment practice for people with a range of several mental disorders in both inpatient and day-hospital treatment.

Extendend recommendations:
In providing arts therapies the following quality criteria should be taken into consideration:
- Integration in comprehensive treatment plan
- Use in all types of mental health care settings
- Person-centred and targeted approach

- Encouraging continuing arts therapy treatment beyond acute treatment episodes
- The creative process is more important than the artistic output
- Differentiated indication for use in individual or group setting
- Modification of procedure in view of homogeneity or inhomogeneity of treatment group
- Frequency and intensity of sessions according to severity of illness
- Intellectual or artistic property rights may need to be taken into consideration

4. Occupational therapy

(Full references: see long version)

Occupational therapy (OT) is one of the oldest treatment forms in mental health care practice and has traditionally been important in psychiatry. The term refers to the Greek word of „*ergon*" (state of being active, work). OT refers to targeted action in order to influence the symptoms of a mental disorder or impairment due to mental disorder using purposeful activities to overcome symptoms, reduce functional impairment, increase independence and involvement in daily living as well as quality of life.

There is consensus that OT can be differentiated into activities (a) focusing on self-care, (b) productivity/work and (c) leisure time. Self-care is related to basic daily living activities including dressing/clothing, nutrition behaviour, meals and social activities around meals, hygiene arrangements and cultural activities. OT productivity refers to targeted human activity to secure one's living (job, training) and/or contributions to other people's lives or societal life as a whole (child education, household roles, charitable work). The area of leisure time comprises activities outside work with no productive targets, their focus is on relaxation, creativity and self-expression. In this chapter there is a focus on the areas of self-care and leisure time.

Evidence: Studies on social and daily skills training were only included if the interventions were provided by occupational therapists. Studies looking exclusively at the effectiveness of OT with work rehabilitation focus were not considered here but will be considered in chapter II-4 on work rehabilitation. Single-arm pre-post studies without control groups were not considered. Systematic reviews could not be found.

Evidence:	**Evidence from randomized controlled individual studies as of 1990:** -Cook et al. 2009 (97) -Reuster 2002/2006 (98;99) -Buchain et al. 2003 (100) -Liberman et al. 1998 (101) -Kopelowicz et al. 1998 (102) -Wykes et al. 1999 (103) -Längle et al. 2006 (37) **Evidence from non-randomized controlled individual studies as of 1990:** -Duncombe 2004 (104)

In agreement with other authors (e.g. 99) the available studies suggest that there is a substantial lack of high-quality studies on OT. Many studies have been performed in small patient samples and have low external validity. There is little homogeneity in terms of outcome parameters examined. OT interventions have not been standardized. Further research is urgently required. Individual studies have reported positive effects of OT (table 16 in annex), and some studies included OT as control intervention (37, 101-103). Also, living

skills training which was used in studies in comparison with OT is not clearly distinct from OT approaches.

Recommendation 29:
Occupational therapy should be offered according to the individual needs of the patient and integrated into a complex, long-term treatment program. ***Grade B, Evidence level Ib***

Note: The level of recommendation was downgraded as the studies available were considered too heterogenous to justify a strong recommendation.

OT interventions in **Germany** are offered in the whole range of psychiatric and psychotherapeutic treatment settings and in somatic hospital wards (e.g. in geriatric care), and OT sessions are regularly part of daily treatment routine in inpatient and day hospital services. On the basis of needs for care therapists define OT activities, and OT is provided in individual or group format. Practical service context influences treatment content. OT activities are sometimes provided in the usual daily living context of patients with a focus on daily living chores. Training facilities such as kitchens to provide group meals are used.

5. Sports and movement therapies

(Complete references: see long version)

Sports and movement therapies in this guideline refer to medically indicated and defined movement programmes with behavioural components planned by therapists and provided in defined doses to individual patients or to patient groups (www.dvgs.de).

In **Germany** sports and movement treatment programmes have been provided in inpatient and community settings for about 50 years. Sports and movement therapy in mental health practice goes back to a range of traditions from physiotherapy to psychotherapy (Hölter 1993). Sports therapy has a somatic and functional focus, there are movement therapies that emphasize emotional expression and have a more psychotherapeutic focus. There are also programmes with an educational and psychosocial focus, such as movement therapy with an emphasis on communication and mototherapy. In the appraisal of movement therapy approaches the term „t*wo-route strategy*" has been coined which considers the improvement of physical health on the one hand and direct improvement of symptoms and subjective wellbeing on the other hand.

In reviewing the **evidence** autogenic training and relaxation techniques were excluded; dance therapy was included among arts therapies in this guideline.

	Movement interventions for people with schizophrenia	**Movement interventions for people with depression**	**Movement interventions for mixed diagnostic patient groups (schizophrenia and bipolar affective disorder)**
Evidence	**Systematic review** - Gorczynski & Faulkner 2010 (Cochrane Review) (105) *Inclusion of 3 RCTs* **Randomized controlled**	**Randomized controlled trials** - Martinsen et al. 1985/1989 (114;115) - Blumenthal et al. 1999 (116) - Babyak et al. 2000 (117) - Knubben et al. 2007 (118) - Veale et al. 1992 (119)	**Randomized controlled trial** - Pelham et al. 1993 (121)

	trials - Pajonk et al. 2010 (106) - Hatlova & Basny 1995 (107) - Nitsun et al. 1974 (108) - Goertzel et al. 1965 (109) - Maurer-Groeli 1976 (110) - Röhricht & Priebe 2006 (111) **Non-randomized controlled trials** - Knobloch et al. 1993 (112) - Deimel 1980 (113)	- Pinchasov 2000 (120)	

Studies that were identified referred to specific diagnostic groups such as people with schizophrenia, depression or a group of patients with schizophrenia or bipolar disorder. The majority of studies examined the effectiveness of aerobic exercise (endurance training, walking). There were numerous studies using sports therapy in people with depression. There was substantial heterogeneity of comparison groups. The evidence suggests positive effect of aerobic exercise on mental health status in people with SMI.

The evidence suggests that among people with schizophrenia regular physical training (endurance training) can reduce positive and negative symptoms, depressive symptoms and anxiety in comparison with standard treatment (table 17 annex). Some physical health parameters could be improved significantly. When physical training was compared with yoga rather than standard treatment positive effects of physical training (endurance training) disappeared. Yoga was more effective regarding some outcome parameters (105). A recent randomized controlled trial from Germany showed physical training (endurance training) to be superior to a comparison condition among people with schizophrenia and to lead to increased hippocampal volume at follow-up (106). A randomized controlled trial and two non-randomized controlled trials compared game-oriented movement therapy programmes with non-specific treatment in control groups. An RCT showed relaxation-oriented programmes were more effective than game-oriented movement therapy (107) while a non-randomized controlled trial showed significant positive results with respect to social competence (112). Deimel et al. (1980) found motor behaviour, social behaviour and emotional behaviour significantly improved (113). A creative movement and drama therapy intervention was shown to be more effective than group psychotherapy with respect to illness severity and psychomotor functioning (108). The evidence suggests that training-oriented interventions may be more effective than standard treatment.

Recommendation 30:
In treating schizophrenia, movement-oriented interventions should be used and adjusted to the condition, individual needs and physical fitness of the patient and integrated into a multi-modal complex treatment program. ***Grade B, Evidence level Ib***

Note: The level of recommendation was down-graded as studies were too heterogenous to justify a stronger recommendation..

Three randomized controlled trials of body-oriented psychotherapy in people with schizophrenia were included (table 18 annex). „*Body-ego technique*“ in comparison with music

therapy resulted in a significant improvement of psychopathological symptoms, physical fitness and functioning (109). Maurer-Groeli (1976), in a RCT of body-oriented exercise in the context of group psychotherapy, reported significant improvement of coenesthetic symptoms (110). Röhricht and Priebe (2006) compared body-oriented psychotherapy with counselling and found a significant reduction in negative symptoms in the intervention group (111).

Recommendation 31:
In treating schizophrenia, body-oriented psychotherapy should be used. ***Grade B, Evidence level IIa***

Aerobic endurance training in depressed patients was shown to improve mental health state, severity of depression, anxiety, quality of life, sense of self and dysfunctional cognitions when compared with anti-depressant medication (with anti-depressant medication showing earlier onset of clinical action) (116). The antidepressant effect of movement which is well-established in people with mild depression appears to apply also to people with moderate to severe depression (114,115,118). Positive effects on physical health parameters and relapse prevention were also found (117) (table 19 annex).

Recommendation 32:
In treating depression, regular exercise should be applied, adjusted to the physical fitness of the patient. ***Grade B, Evidence level Ib***

Note: The level of recommendation was down-graded as the level of evidence was insufficient to formulate a strong recommendation.

During and after therapy study participants were encouraged to continue exercise (110,116). Study participants were re-examined six months later. Patients who had participated in regular physical health training during follow-up were significantly less likely to have relapsed into depression (117).

Recommendation 33:
Patients should be encouraged and instructed to establish and independently maintain regular participation in sports in their everyday life. ***Grade 0, Evidence level III***

Reviewing the overall evidence the following recommendation across diagnostic groups can be formulated:

Recommendation 34:
Regular and guided physical activity should be offered to improve psychological symptoms and physical fitness, to stimulate body awareness, and to encourage integration in social community. **Level of recommendation: CCP**

Box:
In any case physical health and movement interventions should be preceded by a physical health check in patients thus ensuring the physical fitness of the patient. Administering physical health and fitness interventions requires well-trained staff with competencies in the instruction to physical health training and with knowledge of mental health problems and in leading group activities, in assessing both mental health symptoms and effects of medication.

IV Self-help and related concepts

(Complete references: see long version)

Self-help plays an important role in the treatment of people with SMI. The use of self-help is not controversional among professionals (and service users). There is no homogenous understanding of the concept of self-help. The multitude of forms of self-help and types of activity suggests a broad range of meanings of the concept of self-help. For self-help we intend all individual and group activities that refer to coping and managing a health or social problem by those concerned by the health problem/illness. Self-help is based on experiential knowledge, i.e. knowledge by experience, and can include professional knowledge. The concept of professional help or help by others refers to paid and unpaid help by lay persons without experience of illness or professional experts. Self-help strengthens self-management competencies of patients and informal carers. Also, patients/ service users can rely on mutual understanding, acceptance and tolerance for pecular experiences in thinking and feeling, and on action in supporting others. Self-help offers patients opportunities to develop specific strategies and resources. It is helpful to integrate professional, non-professional and self-help interventions. There is substantial interest in the concept of peer support in mental health, i.e. of involvement by those who are experts by experience in mental health services and the care process.

In **Germany** self-help activities have both been initiated by health experts/health professionals and by people with personal experience of illness. Strong carer initiatives during the 1970s and 1980s have led to regional and federal initiatives of service users and carers that are currently organized at the federal level. Germany has the *Bundesverband der Angehörigen Psychisch Kranker e.V. Bonn (BApK)*, the federal organization of carers of people with mental health problems, the *Deutsche Arbeitsgemeinschaft Selbsthilfegruppen (DAG SHG)* was founded in 1982. There is also a national contact point for all such initiatives *(Nationale Kontakt- und Informationsstelle zur Anregung und Unterstützung von Selbsthilfegruppen, NAKOS)*. In 1992 the *Bundesverband Psychiatrie-Erfahrener e.V. (BPE)*, the federal organization of mental health service users was founded; BPE has been involved in the build-up of local service user groups. Statutory health insurance in Germany has an obligation to fund self-help (§20, Abs. 4, SGB V).

Statement 10:
Self-help is a routine component of the system of care for people with severe mental disorders. Self-help supports self-management competencies, strengthens exchange of information and activation of resources and self-healing energies, the understanding and acceptance of mental health problems.

Statement 11:
Carers of people with severe mental illness experience substantial stress and burden. Also they are an important resource in coping with mental illness, and their support may have a stabilizing function. Professionals should support carers, and there should also be initiatives towards self-organized self-help of carers.

In spite of attempts at strenghtening research in this area there are few high-quality studies on self-help among people with severe mental disorders. The available **evidence** does not relate exclusively to patients with severe mental disorders but also to other types of mental health problems.

Self-management is the capacity to independently organize one's personal development. It includes continuous and critical self-monitoring and sufficient intrinsic motivations, requires the formulation of aims, continuous planning and organization of one's actions and a corresponding control of personal activities.

Recommendation 35:
Self-management is an important part of coping with illness, and it should be strengthened throughout the treatment process.
Level of recommendation: CCP

Media-based education and self-help is of increasing importance. Patient information leaflets and other forms of information to patients should be strengthened, internet-based self-help is important. Information materials are available in different formats; they have been developed for a broad range of mental health problems.

Recommendation 36:
Information leaflets and self-help manuals should be free of conflicts of interest, should be easy to understand and of high quality.
Level of recommendation: CCP

There is little evidence regarding the effectiveness of patient information booklets among people with SMI. Meta-analyses on the effectiveness of **patient information leaflets (Patientenratgeber)** among people with depression refer to heterogenous patient groups.

Statement 12:
Patients and carers should be directed to the potential of using information leaflets, self-help manuals and information programmes including communication and self-management training, and they should be encouraged to use such sources of information in mental health services.

Internet- and computer-based self-help interventions will assume increasing importance as access to such interventions will improve over time. Service users can determine the speed and rhythm of use of information materials, stigmatization is likely to be very limited. People with recurring or chronic conditions seek exchange with others experienced of mental health problems. There are various computer-based approaches, most studies refer to internet-based interventions.

Recommendation 37:
Internet- and computer-based information materials or interventions with the option of professional feedback and support can be helpful in case of adequate motivation.
Level of recommendation: CCP

Online self-help fora are communication platforms of increasing importance for people with mental health problems and their carers. Further to the obvious advantages such as high flexibility, anonymity and self-regulation there are also disadvantages and risks. Linguistic competence and cognitive capacities are important to achieve successful online communication. The quality and seriousness of information and sources of information and data protection are considered central problems. Excessive internet use accompanied by social withdrawal implies an increased risk of dependence on internet activities. Other potential adverse effects may be related to special chatrooms which may enhance risk

behaviour in vulnerable risk groups such as adolescents and young adults with suicidal ideation.

Self-help groups are organized in different ways. There are various group formats of open groups or groups with defined membership, there are self-help groups of service users and of carers, there are mixed self-help groups of service users and carers, and there are disorder-specific self-help groups and those open to people with all types of mental health problems. Content is determined by group members, important themes include various aspects of illness experience, problems related to the mental health problem, positive developments; exchange of experience and information can alleviate emotional suffering and strengthen strategies in illness management. Participants can benefit in their personal lives and self-consciousness. Participants can benefit by increasing their knowledge of early signs of a mental health crisis and by enhancing their crisis management and network. Further aims include information and improving sensitivity of the general public, public information campaigns and lobby work relevant to group members.

Evidence	Systemativ reviews	Individual studies
	Systematic review on self-help in mental disorders: Borgetto 2004 (122)	Segal et al. 2010 (123) *Randomized controlled trial*
		Schulze Mönking 1994 (124) *Randomized controlled trial*
		Burti et al. 2007 (125) *Naturalistic comparison study*
		Leung & Arthur 2004 (126) *Qualitative study*
		Höflich et al. 2007 (127) *Follow-up study*

Although the benefit of self-help is not controversial effectiveness of self-help groups has not been studied sufficiently. Widespread use and application of the self-help concept and different ways of operationalizing self-help make research into self-help strategies a challenging project. Prospective randomized trials of efficacy and effectiveness are hard to implement.

Recommendation 38:
Patients shall bei informed about self-help and carer groups and if adequate shall be encouraged to participate.[1]
Level of recommendation: CCP

1: *Compare: NVL depression.*

Extended recommendations:
Support of self-help for patients and carers by professionals can take various forms:

- Referring patients to self-help contact point,
- giving information about regional self-help groups, posters or flyers in service or public rooms,
- information by peer supporters,
- providing the opportunity for self-help groups in institutions,
- supporting the foundation of self-help groups,
- defining transition from professional interventions to self-help groups,
- networking between care system and self-help groups,

- strengthening lobbying for self-help groups in planning bodies,
- supporting public relations activities for self-help

WHO considers the involvement of users of mental health services and their carers as an important aspect of the mental health reform process. It has been shown that active **involvement of people with personal experience of mental illness** and their families can improve quality of care. Service users should be involved in the development and implementation of training curricula to facilitate a better understanding of their care needs among mental health staff. Involving service users at various levels (planning bodies, research, training, community and other services) is of increasing importance. In various countries there is a range of activities involving service users. Peer-support can take various forms: (I) mutual support, (II) user-run or peer-run services and (III) peer support. Experienced Involvement Curricula (*EX-IN-Kurse)* provide an instrument in German-speaking countries to further develop this rescource. Ex-In training curricula strengthen the capacities to reflect peoples's own illness experiences and to enhance experiential knowledge and expertise in providing peer support. In other countries there is substantial involvement of peers in routine care. In the UK and the USA service users are involved in home treatment teams, and in Germany there is peer-involvement of peers trained in Ex-In curricula in some mental health services.

Statement 13:
Peer support can improve service contact and adherence among patients and carers.

Children of parents with mental health problems

(References: see long version)

Children of parents with mental illness experience problems related to their parent's illness, and they have an increased risk of developing a mental health problem in their future lives. Thus, children of parents with mental illness constitute a **risk group for mental health problems**.

About one third of children concerned develop no mental health problems even in the long term. Some studies showed that there may be increased vulnerability among such children. However, there may also be particular forms of resilience in coping with problems. Apart from such generic protective factors there is evidence from qualitative studies that information adequate to age and experience on the mental health problems experienced by parents may help to strengthen the coping of these children.

In a discussion paper **care needs of children and adolescents concerned by parental mental illness** have been formulated. Ensuring and strengthening prevention activities and resilience among children by organizing leisure time activities and considering time periods in host families and various forms of information and counselling may be effective. Information and counselling should be provided also to parents, partners and other relatives. The threshold to utilize prevention and other types of support should be low, and educational support that is easily available may be useful. There should be crisis plans with everyone in the family concerned, there should be options to use crisis support networks. Co-ordination, treatment and care planning are important.

Statement 16:
In supporting children and adolescents of parents with mental illness preventive approaches are important, cooperation of various institutions such as mental health and addiction services, services for families and adolescents, adult mental health services and other somatic health services are important. The educational system can facilitate access to services that are available. A low threshold of access to such groups, items of information and services are important.

V Research challenges

(References: see long version)

Randomized controlled trials are the gold standard to study effectiveness and cost effectiveness of interventions, and this also applies to complex psychosocial interventions.

Questions include what exactly is provided by whom and with what qualification, in what intensity and duration. *Treatment as usual* (TAU) nowadays is not what it was 30 years ago. When control conditions against which experimental interventions are compared improve in standard, change their nature or become more complex it can be difficult to show effects of experimental interventions, distinguish effect sizes of older versus more recent studies and distinguish „experimental effects" against effects that can be attributed to differences in control conditions. Where community mental health care is concerned it is well established that community-based care models are increasingly implemented in routine care so that it becomes more difficult to demonstrate the effects of "innovative community interventions". Such challenges need to be borne in mind when considering the evidence and formulating recommendations.

In answering the questions of „what exactly is being provided…" there is good reason to distinguish between functional components, different institutions, type of implementation, and funding issues. Where functional components are concerned, these can be realized in different institutional settings, and institutional setting can be important to the effects observed when a specific intervention is implemented. Particular care components can be implemented in different institutional settings, and this can have an impact on efficacy. Conceptual clarity is important in mental health services research. For instance, components or elements of case management are found in many different institutional packages or specific interventions offered:

- Case management as used in the „person-centred approach"
  - Sociotherapy funded according to § 37a SGB V which is restricted to health packages of care targeting complex mental health issues
  - Sociotherapy as a component of inpatient(hospital psychiatric) care according to Psych-PV (Psychiatrie Personalverordnung)
  - Case management as part of nursing care provided in different settings (Pflegeberatung according to § 7a SGB XI and § 92 c SGB XI)
  - Case management as a specific form of provision of community care in Munich (Atriumhaus München)

- Model teams or care packages, e.g.

  - *IV-Projekt Psychosenbehandlung UKE Hamburg-Eppendorf* as a specific form of integrated community care in Hamburg
  - Teams targeting health care needs of specific groups in a service with a „Regionalbudget"
  - Key worker systems in different health care settings.

Thus, aspects of CM can be found in different packages of care and at different levels of the service system.

The community care paradigm is the current milestone in the Anglo-Saxon research and reform tradition in organizing non-institutional mental health care. There have been seminal analyses of institutional care, and the consensus regarding community care is also strong in

Germany. However, the tradition of mental health services research into community care is much weaker in Germany. Institutionalism can, of course, recur in new community-oriented care models.

Results of the evidence search for this guideline suggest that there have been many randomized controlled trials looking at individual psychosocial interventions. There is also a large number of RCT into community care-type interventions at the system level. However, in such complex evaluation studies there has been extensive use also of cluster-randomized trials. Non-randomized controlled trials can also be important. Quasi-experimental studies have been used. There is no doubt that the overall organization of the mental health care system warrants empirical studies to achieve „*evidence-based mental health care*". Research into system-level effects and implementation issues is important. Mental health nursing research will play an important role.

This guideline, apart from the interventions mentioned above, also looks at foundations or founding paradigms of psychosocial interventions. Recovery orientation is an example, so is the therapeutic process or the empowerment care approach. These basic models of working or paradigms cannot easily be put to scientific scrutiny. Mental health services research cannot do without qualitative research methods, and the understanding of complex interventions can benefit from the sequential or triangulation approach of qualitative methods and the detailed scrutiny of ingredients or components of interventions.

What are the key outcome parameters that should be put to use in trials? Many outcome parameters have been used, they include psychopathological symptoms (symptom severity), treatment-associated parameters such as inpatient treatment days, variables of social inclusion such as social functioning level and employment situation, satisfaction with treatment and quality of life as well as cost effectiveness. A convergence of outcome parameters and the harmonization of instruments used to assess outcomes is desirable to increase the homogeneity and comparability of studies. However, there is a dynamic here as the importance of inpatient treatment duration as a central outcome parameter may decrease in community care systems with much less reliance on hospitalization. In strongly community-oriented care systems other outcome parameters such as social inclusion increase in importance. The degree of social inclusion or integration is a central outcome parameter of psychosocial interventions, for societal integration and equity of access to resources have not been achieved by mental health care systems in rich Western societies. The definition of outcome criteria and the development of measurement instruments looking at such parameters are important challenges. Patient relevance of outcome parameters is important, patient-relevant outcomes should be close to variables or decision processes in which patients take an active role. The Institute for Quality and Efficieny in the Health Care System (IQWiG) considers patient-relevant outcomes as influencing health aspects, decisions of patients and clinicians with the exception of so-called surrogate parameters and economic outcome parameters. They also comprise all essential effects of health interventions.

To increase relevance to patients of studies service users should be integrated in the design and performance of studies. Considering the perspective of people with personal experience of mental illness could lead to less symptom-oriented parameters and more subjective outcome parmeters being used and valued.

The review of the evidence on s*ystem* interventions shows that the quality of the evidence is very good in community care. Virtually all studies were performed outside Germany, and

there are relatively few systematic attempts to implement complex and integrated care models in routine care. However, during recent years more innovative models have been developed. There is good evidence that the place-and-train model of supported employment integrates more people with SMI into jobs than the traditional train-and-place approach. There is relatively modest evidence on residential services, and there is great heterogeneity in this part of the care system. Supported housing interventions can have positive effects irrespective of the specific form of individual intervention. There is little knowledge on individual level predictors of the success of residential care arrangements.

The study of *individual* interventions shows a multitude of studies and a relative wealth of evidence on efficacy and effectiveness on psychoeducation. Trialogue approaches and peer-to-peer approaches require more evaluation. Looking at effectiveness and efficiency studies is important. In 2003 an expert group looked at research areas in the field. There is an understanding that new forms of self-help and internet-based self-help approaches may substantially change the care system. Self-help potentials among different patient groups should be evaluated, and social factors are likely to be very powerful. High quality blinded studies of very complex team-based interventions are difficult.

In considering social skills training the transfer of qualifications acquired in training measures is important. Arts therapy and occupational therapy would benefit a lot from further studies in large patient samples. Treatment in mental health care is often multi-component and multi-professional; these different approaches are combined which makes evaluation complex. A great heterogeneity of interventions, e. g. movement therapy or movement interventions, enhances the challenge of evaluation.

The knowledge on psychosocial interventions in people with SMI is good, and there is evidence of varying strength in different types of intervention. Quite often, there is limited knowledge on "dose", i. e. the role of the intensity and duration of a specific intervention.

Annex I

Measures for guideline implementation

(Reference: see long version)

Guidelines are increasingly important in world-wide healthcare practice, and the practice of guideline implementation varies substantially in daily routine practice. The effectiveness of a guideline in routine care depends on the **methodological quality of the guideline** but it also depends on the level of acceptance in the professional target group(s) and the quality of transfer into routine practice. A routine application of guidelines needs to bear in mind institutional, staff and setting characteristics. The overall effects of the configuration of the care system need to be considered.

There are several strategies to facilitate **implementation of guidelines**. Cognitive theories can be put to use, and they emphasize learning processes and the acquisition of competencies and rational behavior. Passive dissemination of guidelines is not adequate, guideline implementation requires additional audits which examine the degree of guideline implementation and also elicit feedback (benchmarks) comparing local practice with neighbouring mental health care institutions.

The present guideline has several components which enable the reader to use the book in different forms and may help to address difficulties arising within the process. There is a patient and carer version and a waiting room version which are both short versions of the original guideline. The DGPPN website provides access to the guideline and to all related documents (http://www.dgppn.de/dgppn/struktur/referate/versorgung0/s3-leitlinie-psychosoziale-therapien-bei-schweren-psychischen-erkrankungen.html).

Annex II

Levels of evidence and degrees of recommendation

(References: see long version)

For each topic and outcome parameter the guideline development group reviewed and summarized the evidence to arrive at the highest level of evidence available. The following evidence levels were used:

Table AII-1: Levels of evidences

Ia	Evidence from one meta-analysis based on a minimum of three randomized controlled trials (RCTs) or on a single large RCT with unambiguous results
Ib	Evidence from a minimum of one RCT or a meta-analysis of less than three RCTs
IIa	Evidence from a minimum of a methodologically well-defined, controlled non-randomized trial
IIb	Evidence from a minimum of one methodologically adequate, quasi-experimental study
III	Evidence from methodologically adequate, non-experimental descriptive studies such as comparison studies, correlation studies and case series
IV	Evidence from reports and recommendations of expert committees or expert opinion and/or clinical experience of respected authorities

The elaboration of guideline recommendations, in this S3 guideline, was based on the grade criteria (Grading of Recommendations Assessment, Development and Evaluation):

- Quality of evidence
- Relevance of effects and effect sizes
- Insecurity and problems of equipoise and balance
- Insecurity and fluctuations concerning values and preferences
- Insecurity regarding whether the intervention reflects an adequate use of resources
- Broad applicability in the German health care system

Levels of recommendation

In formulating recommendations the following levels of recommendation were used with the possibility of down-grading or up-grading levels of recommendation thus deviating from a high or low level of evidence:

Table AII-2: Levels of recommendation

A	**Shall recommendation:** most patients should receive this intervention in a specific situation and would decide to have it	Evidence level Ia and Ib
B	**Should recommendation:** a part of patients should obtain this intervention following prior discussion on advantages and disadvantages and other alternatives	Evidence levels IIa, IIb, III or evidence from level I (however, not specific to current question, had to be extrapolated)
0	**Can recommendation:** there is insufficient evidence to give a recommendation, or advantages and disadvantages are comparable	Evidence level IV or extrapolations from IIa, IIb or III
CCP	**Clinical Consensus Point**: Recommendation	Recommendation on the basis of consensus

Developing Recommendation

All recommendations and degrees of recommendation of this guideline were agreed upon by vote in a formalized consensus procedure (Nominaler Gruppenprozess). Guideline texts were made available to users of the consensus group. Comments were integrated in that letter. Procedure and voting procedure of consensus process are outlined in the guideline report available online (http://www.dgppn.de/dgppn/struktur/referate/versorgung0/s3-leitlinie-psychosoziale-therapien-bei-schweren-psychischen-erkrankungen.html).

Annex III

Supplementary evidence tables

Table 12: Effects of assertive community treatment from individual studies on various outcome parameters

	Harrison-Read 2002 (13)	Killaspy 2006 (14)	Macias 2006 (16)	Schonebaum 2006 (17)	Gold 2006 (18)	Sytema 2007 (19)
Illness-associated variables						
↓ symptomatic impairment	~	~	n.a.	n.a.	~	~
↓ substance abuse	n.a.	~	n.a.	n.a.	n.a.	~
Treatment-associated variables						
↓ inpatient treatment duration	~	~	n.a.	n.a.	n.a.	~
sustained contact between patients and carers	n.a.	++	++	n.a.	n.a..	++
Social inclusion/exclusion						
↑ social functioning	~	~	n.a.	n.a.	n.a.	~
↓ homelessness	n.a.	~	n.a.	n.a.	n.a.	~
↓ times in prison, acts of violence	n.a.	~	n.a.	n.a.	n.a.	n.a.
↑ employment	n.a.	n.a.	-[1]	~/-[1]	++	n.a.
Satisfaction and quality of life						
↑ client satisfaction	n.a.	++	n.a.	n.a.	n.a.	+
↑ quality of life	~	~	n.a.	n.a.	~	~
Cost effectiveness						
cost effectiveness	~	n.a.	n.a.	n.a.	n.a.	n.a.

++: significant advantage in experimental group compared to control group
+: trend to superiority without significant difference in experimental group compared to control group
~: findings comparable in both groups
-: disadvantage in experimental group compared to control group
n.a.: not assessed
↓: decrease, ↑: increase
[1]: comparable to/disadvantage compared to clubhouse model

Table 13: Effects of housing interventions on various outcome parameters (Kyle & Dunn 2008) (40)

	RCTs included			
	Lipton 1988 (128)	Dickey 1996 (129)	Seidman et al. 2003 (130) Schutt 1997 (131)	Tsemberis 2004 (132)
	residential treatment programme vs. standard postdischarge care	*group home vs. individual apartment*	*group home vs. independent apartment*	*group home vs. transitional housing*
Treatment-associated variables				

↓ inpatient treatment days/year	+ [1] *	~ [1] *	n.a.	n.a.
↓ inpatient treatment days/year (depending on duration of stay)	n.a.	~ [1] *	n.a.	n.a..
Illness-associated variables				
↓ negative symptoms	n.a.	n.a.	n.a.	~*
↑ neuropsychological functioning	n.a.	n.a.	~*	n.a.
Social functioning and quality of life				
↑ executive functioning	n.a.	n.a.	++	n.a.
↑ quality of life	n.a.	n.a.	~ *	n.a.

++: significant advantage in experimental group compared to control group +: trent to superiority without significant difference in experimental group compared to control group
~: comparable results in both groups
n. a.: not assessed
↓: decrease, ↑: increase
[1]: small sample and low follow-up rates
* in homelessness

Table 14: Effects of psychoeducation approaches in people with schizophrenia on various outcome parameters (data from individual studies)

N=number of patients included:	Magliano et al. 2006 (57) N=71	Aguglia et al. 2007 (58) N=150	Carra et al. 2007 (59) N=101	Gutiérrez-Maldonado et al. 2007/2009 (60;61) N=45	Nasr & Kausar 2009 (62) N=108	Chien & Wong 2007 (63) N=84	Chan et al. 2009 (64) N=73
Illness-associated variables							
↓ symptomatic impairment (general)	~	++	n.a.	n.a.	n.a.	n.a.	++
↑ complicance with medication	n.a.	n.a.	++	n.a.	n.a.	n.a.	++
↑ illness insight	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	++
Treatment-associated variables							
↓ risk of relapse & inpatient readmissions	n.a.	++	~	n.a.	n.a.	++	n.a.
↓ inpatient treatment duration	n.a.	++	n.a.	n.a.	n.a.	++	n.a.
↓ treatment discontinuation	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	~
Social functioning and quality of life							
↑ social functioning	++	n.a.	n.a.	n.a.	n.a.	++	n.a.
↑ personal functioning	++	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ quality of life	n.a.	++	n.a.	n.a.	n.a.	n.a.	n.a.
Carer-associated variables							
↓ carer burden	++	n.a.	~	++	++	++	++
change in coping, carers	n.a.	n.a.	n.a.	++	n.a.	++	n.a.

++: significanter advantage in experimental group compared to control group;
~: findings comparable in both groups
n.a.: not assessed; ↓: decrease, ↑: increase

Table 15: Effects of social skills training on various outcome parameters (data from individual studies)

	Horan et al. 2009 (76)	Galderisi et al. 2009 (77)	Xiang et al. 2007 (78)	Kern et al. 2005 (79)	Hogarty et al. 2004 (80)
Illness-associated variables					
↑ social skills	++[1]	n.a.	n.a.	++	n.a.
↑ social functioning	n.a.	++	++	n.a.	++
↓ symptomatic impairment					
▪ negative symptoms	-[2]	~	++	n.a.	~
▪ other symptoms	~	~	++	n.a.	n.a.
Treatment-associated variables					
↓ risk of relapse and inpatient readmission	n.a.	n.a.	++	n.a.	n.a.
↓ treatment discontinuation	n.a.	++	n.a.	n.a.	n.a.
↑ satisfaction of patient	~	n.a.	n.a.	n.a.	n.a.
Social inclusion/exclusion					
↑ re-employment	n.a.	n.a.	++	n.a.	n.a.
Further psychological variables					
↑ cognitive functioning	~	~	n.a.	n.a.	++
↑ illness insight	n.a.	n.a.	++	n.a.	n.a.

++: significant advantage in experimental group compared to control group, ~: findings comparable in both groups
-: disadvantage in experimental group compared to control group, n.a.: not assessed
↓: decrease, ↑: increase
[1]: improvement in one domain (perception of facial affect), [2]: deterioration in one domain (anergia)

Table 16: Effects of occupational therapy on various outcome parameters

	Cook et al. 2009 (97)	Reuster 2002/2006 (98;99)	Buchain et al. 2003 (100)	Liberman et al. 1998 (101)	Kopelowicz et al. 1998 (102)	Wykes et al. 1999 (103)	Längle et al. 2006 (37)	Duncombe 2004 (104)
comparison groups	CMHT + occupational therapy vs. CMHT only	competence-centered occupational therapy vs. self-occupation	Clozapine + occupational therapy vs. Clozapine only	occupational therapy vs. living skills training	occupational therapy vs. living skills training	occupational therapy vs. kognitive Remediation	expression-centered occupational therapy vs. occupational therapy	cooking-skills training in hospital vs. home-based cooking skills training
Satisfaction and quality of life								
quality of life	n.a.	n.a.	n.a.	~	n.a.	n.a.	~	n.a.
satisfaction of client	n.a.	**+**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Social inclusion/exklusion								
social functioning	**~**	n.a.	n.a.	**-** (only with respect to stress)	n.a.	**~**	**~**	n.a.
communication capacity	n.a.	**++** (only in the second time of assessment)	n.a.	n.a.	n.a.	n.a.	~	n.a.
adaptability	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	~	n.a.
obtaining competitive or sheltered work	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	~	n.a.
Illness-associated variables								
psychopathology	n.a.	~ (whole group) **++** (depression sub-group)	n.a.	~	n.a.	~	~	n.a.
negative symptoms	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
general clinical outcomes	n.a.	**(+)**	**++** (basis: EIOTO-total score)	n.a.	n.a.	n.a.	n.a.	n.a.
cognitive speed	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	~	n.a.

overall cognitive function	n.a.	n.a.	n.a.	n.a.	n.a.	-	n.a.	n.a.
self-efficacy/ locus of control	n.a.	~	n.a.	n.a.	n.a.	n.a.	~	n.a.
feeling of self-worth	n.a.	~	n.a.	~	n.a.	-	n.a.	n.a.
concentration	n.a.	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
learning capacity	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	+	n.a.
hopelessness	n.a.	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
anxiety	n.a.	~ (whole group) ++ (depression subgoup)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
knowledge/ post-discharge skills	n.a.	n.a.	n.a.	n.a.	-	n.a.	n.a.	n.a.
Treatment-associated variables								
continuity of care	n.a.	n.a.	n.a.	n.a.	-	n.a.	n.a.	n.a.
generalizability of skills post-discharge	n.a.	n.a.	n.a.	-	n.a.	n.a.	n.a.	n.a.
cooking skills	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	~
cost effectiveness								
cost reduction of subsequent service use	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	~	n.a.

++: significant advantage in intervention group compared to other groups
+: trend to superiority without significant difference in intervention group compared to other groups
~: comparable findings in all groupsisadvantage in this intervention group compared to other groups
n.a.: not assessed
↓: decrease, ↑: increase

Table 17: Effects of sports and movement interventions in schizophrenia on various outcome parameters

	Systematic review		*RCT's*					*Controlled trials*	
	Gorczynski & Faulkner 2010 (105)		Pajonk et al. 2010 (106)		Nitsun et al. 1974 (108)	Hátlová & Bašny 1995 (107)		Knobloch et. al. 1993 (112)	Deimel 1980 (113)
Comparison groups	physical (mostly aerobic) training vs. standard care	physical (mostly aerobic) training vs. yoga	physical endurance training vs. tabletop football	physical endurance training, tabletop football vs. physical endurance training (healthy patients)	creative movement programme vs. group psychotherapy	sports and games vs. concentrated relaxation	sports and games vs. standard care	sports and games vs. standard care	sports and games vs. standard movement therapy
Illness-associated variables									
↑ overall mental health status	+	n.a.	n.a.	n.a.	n.a.	-	+	n.a.	n.a.
↓ general psychopathology	n.a.	-	n.a.	n.a.	++	n.a.	n.a.	n.a.	n.a.
↓ positive symptoms	++	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ negative symptoms	++	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ severity of depression	++	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ anxiety	++	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ positive affect	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ hippocampal volume	n.a.	n.a.	++	~	n.a.	n.a.	n.a.	n.a.	n.a.
Treatment-associated variables									
↓ discontinuation of intervention	~	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Social functioning and quality of life									
↑ quality of life	n.a.	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ social/vocational functioning	n.a.	~	n.a.	n.a.	n.a.	n.a.	n.a.	+	++

↑ behaviour	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	+	n.a.
↑ psychomotor functioning	n.a.	n.a.	n.a.	n.a.	+	n.a.	n.a.	n.a.	n.a.
Further variables									
↑ aerobic fitness	+	n.a.	n.a.	~	n.a.	n.a.	n.a.	n.a.	n.a.
↓ risk of side effects/ movement disorders	n.a.	~	n.a.	n.a.	n.a.	n.a.	n.a.	~	n.a.
↓ lack of physical activity	n.a.	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ maximum power	++	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ cardiovascular fitness	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ body mass index	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ waist circumference	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ weight	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ body fat	++	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↓ dysfunctional beliefs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ emotionality	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	++
↑ motor behaviour	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	++

++: significant advantage in intervention group compared to other groups
+: trend to superiority without significant difference in intervention group compared to other groups
~: findings comparable in other groups
-: disadvantage in intervention goup compared to other groups
↓: decrease, ↑: increase
n.a : not assessed

Table 18: Effects of body-oriented psychotherapy in schizophrenia on various outcome parameters

	RCTs		
	Maurer-Groeli 1976 (110)	Röhricht & Priebe 2006 (111)	Goertzel et al. 1965 (109)
Comparison groups	body-oriented group psychotherapy vs. OT	body-oriented psychotherapy vs. OT	*Body-ego technique* vs. music therapy
Illness-associated variables			
↓ psychopathology (general)	n.a.	~	++
↓ positive symptoms	n.a.	~	n.a.
↓ negative symptoms	n.a.	++	n.a.
↓ severity of depression	n.a.	n.a.	n.a.
↑ ego functions	~ * (+[1])	n.a.	n.a.
Treatment-associated variables			
satisfaction with treatment	n.a.	~	n.a.
treatment satisfaction with therapeutic relationship	n.a.	~	n.a.
Social functioning and quality of life			
↑ quality of life	n.a.	~	n.a.

* Rating according to Bellak et al. 1973: sense of reality, reality scrutiny, thinking, protection against stimuli

[1] in disorders of body perception (functional complaints, physical illusions, hallucinations and body depersonalization symptoms)

++: significant advantage in intervention group compared to other groups

+: trend to superiority in intervention group compared to other groups

~: findings comparable in other groups

-: disadvantage in this intervention group compared to other groups,

n.a.: not assessed, ↓: decrease, ↑: increase

Table 19: Effects of movement interventions in depression on various outcome parameters

	RCTs									
	Blumenthal et al. 1999 (116)		Babyak et al. 2000 (117)		Knubben et al. 2007 (118)	Veale et al. 1992 (119)		Pinchasov et al. 2000 (120)	Martinsen et al. 1985 (114)	Martinsen et al. 1989 (115)
Comparison groups	aerobic exercise vs. medication	aerobic exercise vs. medication + aerobic exercise	aerobic exercise vs. medication	aerobic exercise vs. medi-cation + aerobic exercise	aerobic exercise vs. placebo (low intensity pro-gramme)	aerobic exercise vs. standard care	aerobic exercise vs. low intensity pro-gramme	aerobic exercise vs. light therapy	aerobic exercise + psycho-therapy vs. occupatio nal therapy + psycho-therapy	aerobic exercise vs. power or mobility training
Illness-associated variables										
↑ overall mental health status	n.a.	n.a.	n.a.	n.a.	n.a.	++	~	n.a.	n.a.	n.a.
↓ severity of depression	~	~	+(+)	+(+)	++	~	~	++	++	~
↓ anxiety	~	~	n.a.	n.a.	n.a.	++	~	n.a.	n.a.	n.a.
↑ ego functions	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Treatment-associated variables										
↓ inpatient treatment duration	n.a.	n.a.	n.a.	n.a.	+	n.a.	n.a.	n.a.	n.a.	n.a.
↓ relapse rate	n.a.	n.a.	+	+	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Social functioning and quality of life										
↑ quality of life	~	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ self-esteem	~	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Further variables										
↑ aerobic fitness	++	~	n.a.	n.a.	n.a.	~	~	n.a.	n.a.	n.a.
↓ Anergia	n.a.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

↑ cardiovascular fitness	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	+	n.a.	~
↓ dysfunctional beliefs	~	~	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
↑ maximum oxygen uptake	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	++	++

++: significant advantage in intervention group compared to other groups,
+: trend to superiority without significant difference in intervention group compared to other groups;
~: findings comparable in other groups; n.a.: not assessed;
↓: decrease, ↑: increase

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