This document was prepared at the request of the Depression Panel of the Office of the Forum for Quality and Effectiveness in Health Care within the Agency for Health Care Policy and Research, an agency of the U.S. Public Health Service. The panel was charged to develop clinical practice guidelines for the management of depression to be used by general medical and family medicine practitioners in primary care settings. The form of the panel’s questions shaped the introductory portion of the document. After receiving the questions posed by the panel (which are stated later in this document), it was necessary to define the context of the use of occupation and occupational therapy to broaden the panel’s understanding of these terms.

Although in the United States, occupational therapy had its roots in psychiatry, beginning with the Moral Treatment era of the early 1800s (Hopkins, 1988), a cluster of outcome studies relating to the effect of occupational therapy on the treatment of depression has been reported in the literature just within the past 10 years (see Table 1).

Reference to occupation in the title is in the context of goal-directed use of time, energy, interest, and attention (American Occupational Therapy Association, 1972) to foster adaptation and productivity, to minimize pathology, and to promote the maintenance of health:

Occupational therapists work in a broad range of practice areas and settings. Within the scope of general psychiatry, services are provided to children, adolescents, adults and elderly of all functional levels and diagnostic categories, in institutional, community-based, partial hospitalization, residential treatment and forensic programs. These programs are offered in general and psychiatric hospitals, nursing homes, psychosocial and physical rehabilitation centers, sheltered workshops, clinics, public and private schools, group homes, correctional institutions, home health agencies, community mental health centers, day care centers, private practice, physician’s [sic] offices, as well as industry and business. (Fine, 1983, p. 1)

Depression does take its toll on occupation—in fact, the condition is characterized by changes in capacities to engage in goal-directed use of time, energy, interest, and attention. Additionally, occupation, in its broadest context, is precisely that: the goal-directed use of time, energy, interest, and attention. However, occupation that is relevant and appropriate to a given person’s capacities and needs may also serve to alter his or her mood by capturing interest, focusing attention, creating a meaningful time structure, diminishing helplessness, establishing a sense of effectiveness and personal control, and meeting a range of cultural and social-interpersonal needs. Similarly, activities and environmental contexts that are unduly stressful can diminish cognitive and social-interpersonal capacities, diminish personal effectiveness and control, and provoke or exacerbate depression. Work may meaningfully harness the energies of a person despairing over a broken marriage, while it may inundate another person confronting the long-term prospects of a chronic illness. Occupation needs to be understood in the broader context of life roles and activities. Employment is but one of a range of such activities that characterize and define human existence. Leisure time; parenting; home management; self-care; and educational, volunteer, and social activities all play a potentially important role in defining the quality, pattern, and substance of a person’s inner and public lives. These activities require and contribute to the goal-directed use of time, energy, interest, and attention (S. B. Fine, personal communication, December 11, 1990).

For example, a person whose life roles include those of wife, mother, daughter, and chemical engineer might have performance deficits different than those of a person whose life roles encompass those of wife, student, and part-time phlebotomist, though both are experiencing severe depression. The overall treatment goals would be similar for both (namely, to overcome those performance deficits, perhaps through adaptation or through learning new skills), but the treatment plans would be individualized in ways meaningful to each person. The focus of treatment for the first person, for example, might be time management; for the second person, skill development.
<table>
<thead>
<tr>
<th>Author</th>
<th>Study Population</th>
<th>Type of Design</th>
<th>Treatment Group</th>
<th>Outcome Variable</th>
<th>Findings (Effect Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Carlo &amp; Mann (1985)</td>
<td>Psychiatric day treatment center clients, including persons with schizophrenia and depression (ages 26–64 years)</td>
<td>Pretest–posttest control group experimental design</td>
<td>Activity group (n = 7): Engagement in meaningful group activities. Verbal group (n = 6): Engagement in group discussions. Control group (n = 6): Participation in the clinic's normal milieu therapy.</td>
<td>Interpersonal communication skills (based on the Interpersonal Communication Inventory)</td>
<td>Activity treatment produced significantly higher increases in skills than did the verbal treatment (+1.3). Activity treatment produced nonsignificantly higher increments in skills than did the control condition (+0.8).</td>
</tr>
<tr>
<td>Fine (1988)</td>
<td>Adult psychiatric inpatients, short-term acute care setting, with bipolar or major depressive affective disorders (ages 18–55 years)</td>
<td>Experimental two-group design</td>
<td>Life skills curriculum: Educational social-learning approach to skill acquisition designed to enhance community adjustment Standard occupational therapy</td>
<td>Problem-solving skills; communication skills; community adjustment</td>
<td>Preliminary results suggest sustained improvement in problem-solving and communication skills at conclusion of treatment. Functional gains generally sustained in spite of significant increase in depressive symptoms at 6-week follow-up. All results based on small initial sample (n = 5).</td>
</tr>
<tr>
<td>Gangl (1987)</td>
<td>Chemically dependent and emotionally disturbed adolescents at a residential treatment center (ages 13–14 years)</td>
<td>Single-group pretest–posttest design</td>
<td>Open occupational therapy treatment centering on work skills and/or relationship skills (n = 35)</td>
<td>General, interpersonal, and work behaviors (based on the Jamestown Occupational Therapy Assessment)</td>
<td>Over time, improvement was noted in general behavior (+0.5), interpersonal behavior (+0.8), and work behavior (+0.6). (Effect size estimates are based on mean change scores divided by change score standard deviations.)</td>
</tr>
<tr>
<td>Good-Ellis, Fine, Haas, Spencer, &amp; Glick (1986)</td>
<td>Recently admitted inpatients with major affective disorders, including unipolar and bipolar disorders (ages 15–45 years)</td>
<td>Single-group pretest–posttest design</td>
<td>Occupational therapy services, based on the occupational behavior model, featuring emphasis on activities of daily living, goal setting, future planning, recreation, and vocational services (in conjunction with standard hospital treatment with emphasis on family intervention) (n = 50)</td>
<td>Role performance (based on the Role Activity Performance Scale)</td>
<td>Unipolar and bipolar groups demonstrated different patterns of recovery. Trajectory of improvement during 6–18 month period showed social and leisure role improvement preceding work, school, and other primary roles. At both 6 months and 18 months follow-up, more subjects improved than worsened in their role activity performance (respective effect size estimates = +0.1 and +0.4).</td>
</tr>
</tbody>
</table>
Table 1 (Continued)

<table>
<thead>
<tr>
<th>Author</th>
<th>Study Population</th>
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<th>Outcome Variable</th>
<th>Findings (Effect Size)^</th>
</tr>
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<tbody>
<tr>
<td>Kielhofner &amp; Brinson (1989)</td>
<td>Hospitalized psychiatric patients with at least 6 months of psychiatric history and 2 or more hospitalizations (ages 25–40 years)</td>
<td>Randomized post-test only experimental design</td>
<td>Treatment group (n = 20): Small group sessions with structured objectives and activities related to skills, roles, leisure</td>
<td>Recidivism; the Katz Adjustment Scales; The Occupational Questionnaire (a daily activity assessment)</td>
<td>Subjects in the experimental group were nonsignificantly less likely to experience rehospitalization following discharge (+0.5). Katz scores were nonsignificantly different between groups (+0.0). On the Occupational Questionnaire, experimental subjects had a nonsignificantly higher mean for the amount of work than did control subjects (+0.6).</td>
</tr>
<tr>
<td>Kremer, Nelson, &amp; Duncombe (1984)</td>
<td>Chronic psychiatric patients (mainly schizophrenics) participating in a day treatment program (average age 49.6 years)</td>
<td>Randomized post-test only experimental design</td>
<td>Cooking (n = 9): Engagement in cookie making with group</td>
<td>Rated evaluation, power, and action of the activity (based on Osgood's Semantic Differential Scale) following participation in the activity</td>
<td>Participation in cooking produced higher evaluation ratings than either craft or sensory awareness (+1.7) activities. Engagement in cooking led to nonsignificantly lower ratings of power than did craft or sensory awareness (-0.5). Action ratings did not meaningfully differ among the three activities.</td>
</tr>
<tr>
<td>Stein &amp; Smith (1989)</td>
<td>Acutely depressed psychiatric patients (ages 20–45 years)</td>
<td>Single-group pretest-posttest design</td>
<td>Occupational therapy-based stress management training, including group discussion, biofeedback, relaxation training, behavioral rehearsal, and attention to everyday stressors and activities useful in controlling stress (n = 7)</td>
<td>S-Anxiety Scale of the State-Trait Anxiety Inventory</td>
<td>Subjects were significantly less anxious at the conclusion of the program than they were prior to its initiation (+0.8).</td>
</tr>
</tbody>
</table>

^The occupational therapy groups are underlined within each study. ^Positive effect size estimates reflect a beneficial treatment effect, where relevant. Effect size estimates are based on the d statistic and are corrected for sample size bias (Glass, McGaw, & Smith, 1981).

In their study of depressed women, Weissman and Paykel (1974) found that despite the social impairments and accompanying discomforts of acutely depressed patients, a reasonable number of these women continued to work during the acute episode. Within this group of subjects, women who worked outside the home showed less impairment than housewives. The authors noted that though these differences could be related to the tendency of the most impaired patients to give up work, the findings suggested that a job outside the home has a protective effect.

Of particular importance for occupational therapy intervention is the finding that many depressed patients have persistent symptoms and psychosocial and occupational impairment even after recovery from an acute episode (Devereaux, 1986; Keller et al., 1982). Following the remission of depressive symptoms, the person may experience up to a 6-month time lag in returning to a prior level of social functioning (Devereaux, 1986). Several studies have shown that pharmacotherapy is effective in controlling many of the symptoms of depression but has little or no influence on the adaptive skills required for living in the community (Blackburn, 1983; Murphy, Simons, Wetzl, & Lustman, 1984; Rush, Beck, Kovacs, Weissenburger, & Hollon, 1982). A study by Neville-Jan (1987) revealed the presence
of high correlations between adaptive occupational behavior (as is promoted by occupational therapy) and important volitional variables (internal locus of control, experiencing pleasure in daily activities, and planning and organizing future events) among persons with moderate and severe levels of depression. Further investigation is warranted related to the effect of occupational therapy treatment in addressing these concerns, which may lead to or maintain paid employment.

Method for Obtaining Studies

The primary purpose of this report was to review research related to the effect of occupational therapy in the treatment of depression. The first screen of the literature search focused on research related to occupational therapy, affective disorders, and efficacy and outcome studies. The second screen changed affective disorders to depression and was limited to those research articles published within the past 10 years.

The following resources were used in conducting the literature search:

- The Wilma L. West Library, sponsored by the American Occupational Therapy Foundation (AOTF) and AOTA, has a computerized database and comprehensive collection of occupational therapy literature, known as OT BibSys, which currently contains approximately 15,000 records.
- Medline, the computerized listing from the Index Medicus at the National Library of Medicine.
- Selected lists of research grants awarded by AOTF in the field of mental health between 1979 and 1988.
- A set of articles collected by AOTA staff as well as by experts in the field of occupational therapy.
- The Psychological Abstracts Information Service of the American Psychological Association.
- A collection of 162 abstracts published in Occupational Therapy and Mental Health (Ostrow & Kaplan, 1987).
- Nursing and allied health bibliographic databases covering the past 10 years.

The first author retrieved and reviewed 53 articles and 3 graduate theses from the 88 citations that were screened, recommendations of experts in the field, and the 162 abstracts reviewed. Of these, 7 studies were selected for analysis (see Table 1). Due to the contamination of some subject groups with diagnoses other than depression (e.g., schizophrenia) and the paucity of occupational therapy outcome studies reported in the literature, some of the research studies selected for analysis included subjects with conditions other than depression.

Assessment of Evidence

Table 1 provides a summary of research studies that assess the effect of occupational therapy on the functioning of persons with affective or emotional disorders. Within this set of studies, the quality of research design varies greatly, ranging from relatively weak single-group designs (Campbell & Stanley, 1966) to a randomized experiment featuring pretesting, posttesting, and a control group. Table 1 includes a wide array of treatment methods and outcome assessments. The outcome measures, which reflect constructs such as anxiety (Stein & Smith, 1989), activity evaluation (Kremer, Nelson, & Duncombe, 1984), interpersonal skills (DeCarlo & Mann, 1985; Fine, 1988; Gangl, 1987), and role performance (Goodman & Mann, 1987), in each case play a potentially important role in the facilitation of life adjustment.

The last column of Table 1 lists the major relevant findings within each study along with associated effect sizes, when relevant, that correspond to the magnitude of the treatment effect. In most instances, the data reveal a positive outcome associated with occupational therapy, with the central tendency for effect size ($M = 1.58$, medium $= 0.6$) falling within the range of what Cohen (1977) described as an average degree of effect. The tendency toward positive effect sizes is fairly consistent, despite obvious fluctuations in the types of subjects studied, the characteristics of the underlying treatment programs, design features, and outcome assessments. When a single mean effect size is calculated for each study, the combined positive outcome is highly significant ($Stauffer Z = 3.37, p < .001$). Due to the inclusion of unpublished studies as well as published studies that featured a nonsignificant result, it is unlikely that publication bias can account for the overall result. Additionally, the calculated fail-safe $N(25)$, which represents the number of unreported studies with effect sizes of 0 that would need to exist in order to overturn the overall positive result of Table 1, seems acceptably high, given the paucity of research on the topic. Thus, these data tentatively suggest that occupational therapy is associated with life, functional performance, and work-relevant skills and behaviors among psychiatric patients, including patients with depression. Interpretive caution is warranted, however, due to the incomparability of the studies, the weakness of many of the underlying designs, the nonstandard nature of several of the derived effect-size estimates, and the inclusion of nondepressed patients in some of the samples (see Table 1).

Questions Posed by the Agency for Health Care Policy and Research Depression Panel

The first question posed was, "What is the evidence that depression takes its toll on occupation, or what kind of toll?"

The diagnostic criteria that indicate difficulties in doing one's customary occupations are selected from the Diagnostic and Statistical Manual of Mental Disorders (3rd ed., rev.) (American Psychiatric Association, 1987). Symptoms that are expressed while a person is performing an activity are the factors that are apt to take a toll on occupations.

Major depressive episode is characterized by the following symptoms (Note: Symptom No. 3 was excluded from this list):

1. Depressed mood.
2. Markedly diminished interest or pleasure in all, or almost all activities most of the day, nearly every day.
3. Hypersomnia nearly every day.
4. Psychomotor agitation or retardation nearly every day.
5. Fatigue or loss of energy nearly every day.
Disabilities and Handicaps (ICIDH)

occupations can be used to measure a reduction in those symptoms expressed by the following:

1. Poor appetite or overeating.
2. Insomnia or hypersomnia.
3. Low energy or fatigue.
4. Low self-esteem.
5. Poor concentration or difficulty making decisions.
6. Feelings of hopelessness.

Research Issues

Although occupational therapy services are widely recognized under federal and state statutes as an appropriate and effective component in the treatment of psychiatric disorders in both institutional and community-based settings, there exists no broad base of research attesting to its efficacy with this population. A major reason for this situation lies in the historical absence of federal support for basic research initiatives in this area, specifically through the program of mental health research grants authorized by Title III of the Public Health Service Act and administered by the National Institute of Mental Health. In light of the critical need for additional efficacy data relative to occupational therapy, the research grant program of the National Institute of Mental Health should be modified to facilitate increased support for focused research on selected occupational therapy interventions with psychiatric patients (F. Somers, personal communication, November 25, 1990). Of the seven studies reported in Table 1, three were totally or partially funded by AOTA and AOTF; these three studies combined cost less than $15,000. Clearly, much larger funding amounts are necessary in order to conduct sufficiently rigorous outcome studies, which we believe are sorely needed.

Collaborative multidisciplinary studies are indicated. These studies should incorporate various occupational therapy protocols with various psychotherapy protocols, with and without pharmacotherapy for all subjects, depending on the level of severity of depression in the subjects involved, to determine what combinations of treatments produce the best outcome.

Additional areas for research would include, but are certainly not limited to, the following:

- The concept of rehabilitation potential for persons with intractable depression.
- Supportive employment.
- Episodic and interepisode longitudinal studies of patterns of function. Did the strengthening of skills insulate depressed persons from the symptoms of depression?
- Randomized, controlled trials that screen for likeness, are of sufficient size, and use assessment instruments widely accepted among depression researchers (e.g., the Hamilton Depression Rating Scale, the Research Diagnostic Criteria, the Zung Self-rating Depression Scale, the Beck Depression Inventory) enhance the usefulness of the research being reported (Devereaux, 1986). A good design would include appropriate protocols and training for their use as well as interrater reliability.

Summary

In summary, a good deal of theoretical and empirical work supports the notion that occupational engagement is associated with a reduction in depressive symptoms. Because of its explicit focus on roles, behaviors, and adaptive skills, occupational therapy can play a key role in the treatment of depression. Outcome studies are needed that indicate when, during the depressive episode, or interepisode, occupational therapy intervention is most effective, along with the study of variables, such as types of interventions and with what age groups.

Occupational therapists are moving further toward practice policy and are drafting guidelines toward this effort. These are done by therapists who cre-
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References


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