Occupational Therapy Work-Hardening Programs: A Demographic Study

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A survey was conducted of 192 work hardening and work-adjustment programs to gain an overview of practice patterns. The questionnaire covered program affiliation, services offered, staffing, program scheduling, average length of treatment per client, equipment used, physical settings, program status, number of clients seen each week, and types of functional outcome studies and research. The results demonstrate the tremendous growth of the involvement of occupational therapy in work hardening. This demographic study provides baseline information that can assist in the examination of trends and the development of new programs.

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Over the past 10 years, work hardening has become an important service within industrial rehabilitation. The first work-hardening programs were developed in the late 1970s, and references to these programs began to appear in the literature in the mid-1980s (American Occupational Therapy Association [AOTA], 1986; Jacobs, 1985; Matheson, 1982; Matheson, Ogden, Violette, & Schultz, 1985; Niemeyer, 1988; Ogden & Wright, 1985). In 1989, after a lengthy process that had been started 4 years previously by occupational therapists who were developing programs (Niemeyer & Jacobs, 1989), work hardening was officially defined by the Commission on Accreditation of Rehabilitation Facilities (CARF) as “a highly structured, goal-oriented, individualized treatment program designed to maximize the individual’s ability to return to work” (CARF, 1988, p. 69). CARF’s guidelines for work hardening recommend that this service be interdisciplinary and use real or simulated work activities in conjunction with conditioning tasks to achieve therapeutic goals related to improvement of the injured worker’s biomechanical, neuromuscular, cardiovascular-metabolic, and psychosocial functioning. CARF (1988) also recommended that the goals of work hardening address issues of productivity, safety, physical tolerances, and worker behaviors.

The increasing involvement and leadership of occupational therapists in developing work programs in general and interest in industrial rehabilitation in particular has been reflected in the increasing membership in the American Occupational Therapy Association’s (AOTA’s) Work Programs Special Interest Section. We, the authors, are members of the Work Programs Special Interest Section Standing Committee (1987-1990). Membership in this special interest section has grown from 400 in 1985 (its first year) to 2,771 in 1990 (Carol Gwin, personal communication, March 1990), which constitutes the largest increase of any practice section.

Because work hardening is a relatively new service that grew quickly due to market demand, yet with few guidelines, regulations, or standards, this field of practice has been adapted to a variety of settings and clients. Programs have been developed that differ widely in such factors as square footage of facilities, staffing, affiliation, and equipment used. Diversity is also reflected in the range of services offered and practice philosophies (Niemeyer & Jacobs, 1989).

Occupational therapists were attracted to vocational rehabilitation and the work role in the early 1980s. Historical reviews of the profession’s philosophy toward work and worker-related activities throughout the rehabilitation movement (AOTA, 1989; Kirkland & Robertson, 1985) demonstrated that
occupation has been viewed as the dominant influence in returning the injured client to work.

Study Purpose

The purpose of this demographic study was to obtain an overview of work-hardening patterns of practice, specifically, program affiliation, services offered, staffing, program scheduling, average length of treatment per client, equipment used, physical setting, program status, number of clients seen each week, and types of functional outcome studies or other research. In addition to providing demographic data, this study can provide an information baseline by which one can examine future trends in service provision and program development.

Method

The Standing Committee of the Work Programs Special Interest Section developed a two-page questionnaire covering the areas listed above. These areas were selected from questions that have frequently been asked of the Standing Committee by persons interested in developing a work-hardening program.

The questionnaire was originally mailed to a sample of 252 multidisciplinary work-hardening and work-adjustment programs. These programs represented all regions of the United States and included both well-established and recently developed programs. The mailing list was developed from a variety of networking resources and included persons who had written to us, who had attended workshops on work hardening from 1982 to 1986, and who had requested consultation services. The newer programs in the sample were identified from advertisements in OT Week. The data from the 124 program respondents were presented at the annual meeting of the Work Programs Special Interest Section in April 1989. To gain additional respondents, we published the questionnaire in the June 1989 issue of the Work Programs Special Interest Section Newsletter, which generated 76 additional responses. Duplicate questionnaires were removed, and the responses from a total of 192 programs were analyzed.

Results

Program affiliation. The largest number of work-hardening programs who responded are affiliated with hospitals (37%) or rehabilitation centers (20%). Figure 1 details the types of affiliations found in work-hardening programs.

The majority of the reporting programs were operated for profit (56%). Ninety-nine percent of the programs treated outpatients, and 30% of the programs included inpatients.

Services offered. The respondents' choices in this section were presented by descriptions or services rather than by a title, because different services may have the same title and identical services may have different titles. Possible assessment services being offered by the respondent were described to match levels of assessment proposed by CARF (1988). The respondents were given the choice of answering yes or no to the descriptions of possible services offered and were asked to provide the title of the service. Table 1 shows the 13 descriptors used to define the services offered. The most consistently provided services were graded work simulation and exercise to increase employability (91%) and a baseline assessment of functional limitations (91%). The least offered service was supported employment (13%).

Staffing. The staffing patterns of the work programs surveyed showed that occupational therapists and physical therapists are the primary providers of hands-on evaluation or treatment (see Table 2).

Program scheduling. Ninety-one percent of the programs operated 5 days a week. The average length of treatment per client was 4.96 weeks (range = 2.86 weeks to 11.48 weeks). Most of the programs opened at 8:00 a.m. and closed at 4:00 p.m.

Equipment used. The respondents were asked to check applicable items from a list of commercial equipment manufactured by eight vendors. The percentage of respondents using the equipment listed was as follows: West, 66%; BTE, 65%; Valpar, 57%; Cybex, 35%; Jevs, 8%; Singer, 7%; Biodex, 7%; and Tower, 6%.

The respondents were also asked to check applicable items from a list of eight conventional ap-
Table 1

Services Offered by Work Programs and Frequency of Use (N = 192)

<table>
<thead>
<tr>
<th>% of Programs Using Service</th>
<th>Service</th>
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<tbody>
<tr>
<td>91</td>
<td>Individualized, productivity-oriented treatment program that uses graded work simulation, exercise to increase employability.</td>
</tr>
<tr>
<td>91</td>
<td>Intensive, structured, general baseline assessment of functional limitations (includes physical demand factors listed in the Dictionary of Occupational Titles).</td>
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<tr>
<td>90</td>
<td>Assessment of the match between the injured worker’s capabilities and the critical demands of a specific job.</td>
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<tr>
<td>90</td>
<td>Client-worker education for injury prevention.</td>
</tr>
<tr>
<td>85</td>
<td>Modification of workstation or tool design to enhance productivity and produce a better ergonomic match between worker and job.</td>
</tr>
<tr>
<td>83</td>
<td>Systematic on-site study of a job, including biomechanics, physical demands, machines, tools, and equipment used.</td>
</tr>
<tr>
<td>74</td>
<td>Assessment of ability to meet the demands of competitive employment (includes worker traits, worker role behaviors, and feasibility).</td>
</tr>
<tr>
<td>71</td>
<td>Assessment of the match between the injured worker’s capabilities and the critical demands of an occupational group.</td>
</tr>
<tr>
<td>66</td>
<td>Exercise reconditioning program for return to work that does not use work simulation.</td>
</tr>
<tr>
<td>53</td>
<td>Treatment of chronic pain disorders in cases where pain behavior dominates life-style and interferes with productivity.</td>
</tr>
<tr>
<td>48</td>
<td>Evaluation of aptitudes, interests, and temperament for vocational exploration with paper and pencil tests, work samples, or both.</td>
</tr>
<tr>
<td>48</td>
<td>Preemployment-preplacement screening.</td>
</tr>
<tr>
<td>13</td>
<td>Supported employment (e.g., a job coach).</td>
</tr>
</tbody>
</table>

*(U.S. Department of Labor, 1986)*

It is interesting to note that three of the generic modalities—realistic job simulations, simulations of physical demands of the job, and aerobic training equipment—were used more frequently than any of the high-tech standardized equipment that is commercially available, thus demonstrating that the evaluation and simulation of the specific job task of an injured worker are customized processes and are considered important components of the rehabilitation process.

**Physical setting.** The most common physical settings for the work programs were hospital (21%), medical or office building (19%), and rehabilitation center (19%). A new trend of being located outside the medical model in a strip mall or business industrial complex was shown by 14% of the work programs. This reflects CARF’s (1988) recommendation that clients in work-hardening programs should be in a setting where the focus is on ability and, therefore, should be separate from those clients who are acutely or chronically ill. Fifteen percent of the respondents reported locations in combined settings (i.e., hospital with rehabilitation center, industrial complex within business or industry, and as part of a private practice). Two percent of the respondents reported programs at the work site or business, 1% in schools, and 11% in other locations.

**Program status.** Four of the reporting programs were initiated between 1975 and 1978. A steady increase in the number of programs began in 1980 and peaked with 38 new programs in 1986. Since 1986, however, the establishment of new programs has declined. The year that clients were first seen by a particular program followed a similar pattern and demonstrates that time is needed for program development before clients can receive treatment.

**Clients seen weekly.** The average number of clients seen each week was 28.34 (range = 3 to over 100 clients). The median time from injury to referral for treatment was 35.6 weeks.

**Research.** The majority of respondents (63%) were collecting outcome data on clients who had completed the work-hardening program. Fifty-seven percent of the respondents were doing a quality assurance report by program, and 33% were reporting qual-

Table 2

<table>
<thead>
<tr>
<th>Providers of Hands-On Evaluation or Treatment (N = 192)</th>
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<tbody>
<tr>
<td>Professional Provider</td>
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<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Occupational therapist</td>
</tr>
<tr>
<td>Physical therapist</td>
</tr>
<tr>
<td>Technician</td>
</tr>
<tr>
<td>Vocational evaluator</td>
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<tr>
<td>Exercise physiologist</td>
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<tr>
<td>Rehabilitation nurse</td>
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<tr>
<td>Manual arts instructor</td>
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</table>

*Note. FTE = full-time equivalent.*
ity assurance factors by discipline. Forty percent were collecting data on clients who were released to return to work, and 45% were reporting on the actual return-to-work rate. Nineteen percent of the work programs had a research project in process.

Conclusion

The involvement of occupational therapists in the development, staffing, and management of work-hardening programs has grown tremendously in the 1980s. We believe that this represents a return to the basic values of work and occupation, which are the foundation of occupational therapy. Through work-hardening programs, occupational therapy can provide the vital link between the injured worker's functional capacity and the specific demands of a job. This link is in the form of a realistic simulation of job tasks, which allow the occupational therapist to determine if the injured worker (a) can return to the same job, (b) can return to the same job with modifications, or (c) requires retraining for a different job. The information on work-hardening programs presented in this paper provides a baseline for the examination of current practice and future trends and should be of interest to therapists developing new programs or evaluating the effectiveness of existing programs.

Acknowledgments

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References


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