Objective. This study examined patient performance benchmarks for occupational therapy within orthopedic (hip) critical pathways.

Method. Eight orthopedic (hip) critical pathways gathered from occupational therapy practitioners working in hospital and rehabilitation settings were examined to determine commonalities and differences of occupational therapy benchmarks, disciplines involved, and identified allowable variances. A comparison and contrast matrix was developed to provide a visual means of reviewing the data.

Results. Nursing, physical therapy, and occupational therapy were disciplines consistently involved in the pathways. Activities of daily living related to self-care were the most consistently used occupational therapy benchmark within the sample pathways, and functional transfers were the second most-used benchmark. The remaining occupational therapy benchmarks varied, and little commonality was found in their use. Frequency of use also varied among the eight pathways. Five of eight pathways specifically coded variances, with the remaining three providing space for explanation of the variance.

Conclusion. Although these eight orthopedic (hip) critical pathways included occupational therapy benchmarks, further development and definition of the role of occupational therapy within subsequent orthopedic (hip) critical pathways is needed.


Critical pathways, the outline of “the optimal sequencing and timing of interventions by physicians, nurses, and other staff for a particular diagnosis or procedure,” are increasingly being used to facilitate the management and delivery of health care (Coffey et al., 1992, p. 45). Critical pathways allow clinicians to be proactive with the development of treatment plans and may eliminate possible negative outcomes (Korpiel, 1995). Primarily, critical pathways are tools used to cut cost and increase both efficiency and quality of health care (Leininger, 1996; Roark, 1997).

From their emergence in 1989, critical pathways have primarily addressed nursing and medical aspects of health care (Pearson, Goulart-Fisher, & Lee, 1995). They have been expanded recently to include other health care services such as occupational therapy and physical therapy, but, as yet, little is recorded in the literature regarding occupational therapy components. According to Coffey et al. (1992), “Critical paths...that have achieved world class results can theoretically be studied and emulated as a form of benchmarking” (pg. 47). The purpose of the present study was to identify the occupational therapy benchmarks within a

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sampling of orthopedic (hip) critical pathways, an area in which “the care process differs relatively little from patient to patient” (Pearson et al., 1995, p. 943). The occupational therapy benchmarks observed in this study reflect the trend in expected patient performance in orthopedic (hip) critical pathways.

Method

Sample

Snowball sampling was used to obtain critical pathways from targeted facilities in the northeastern United States known to use orthopedic (hip) critical pathways. A cover letter and release form was sent to 42 facilities, requesting a copy of the pathway and stating that the source of all pathways would remain anonymous. The facility supplying the critical pathway was asked to provide referral to other facilities currently using multidisciplinary orthopedic (hip) critical pathways with an occupational therapy component. Ten responses were received. The eight pathways met the following inclusion criteria: (a) orthopedic based (hip), (b) related to total joint replacement, (c) currently being used and included occupational therapy services, and (d) multidisciplinary. Follow-up telephone contacts to occupational therapy departments that received the cover letter and release form revealed that many facilities were unable to release their pathways because of the competitive nature associated with use of pathways to decrease length of stay and health care costs.

Procedure

The eight pathways were given alphabetical codes (see Table 1), to ensure anonymity and to diminish possible researcher bias. Specific occupational therapy benchmarks were identified (e.g., occupational therapy evaluation, activities of daily living [ADL training]. Benchmarks commonly considered within the domain of occupational therapy, such as functional transfers, were not assumed to be so unless they were identified as such (Platt, Hahn, Kessler, & McCarthy, 1986) (see the asterisks in Table 1).

Separately, each of the three researchers analyzed the sample of pathways and categorized their findings according to type of occupational therapy benchmarks present and on what days the benchmarks occurred. Commonalities and isolated components among the pathways were identified as well as the frequency with which other disciplines were included, the days their benchmarks occurred, and the allowable variances noted. Each of the three researchers then compared results and came to consensus regarding type and frequency of occurrence of benchmarks. Results were then charted in a matrix form to provide a visual representation of the data.

Results

Of the eight critical pathways, one was a rehabilitation (postacute) pathway (see Tables 1–3; Setting G) in which day 1 of rehabilitation corresponds with the patient’s postoperative day 4. The other seven pathways were hospital unit (acute) pathways. Five pathways addressed patient care preoperatively, but occupational therapy was involved in only three of the five pathways. Seven pathways included a disclaimer stating that the pathway was meant to serve as a guideline for health care practitioners and in no way was to preclude clinical evaluation or judgment.

Table 1 lists the occupational therapy benchmarks identified in the sample of pathways. The benchmark ADL was prevalent in seven of the pathways. The expectation

<table>
<thead>
<tr>
<th>Setting (ELOS)</th>
<th>A (P-6)</th>
<th>B (A-3)</th>
<th>C (P-3)</th>
<th>D (P-5)</th>
<th>E (P-5)</th>
<th>F (P-3)</th>
<th>G (4-12)</th>
<th>H (sd-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational therapy evaluation</td>
<td>2</td>
<td>2</td>
<td>P</td>
<td>1</td>
<td>1</td>
<td>4 (eo)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADL training</td>
<td>2–5; 6 prn</td>
<td>2, 3</td>
<td>P; 1–3</td>
<td>3–5</td>
<td>(*)</td>
<td>1–3</td>
<td>4–7; 9–12</td>
<td>3, 4</td>
</tr>
<tr>
<td>Transfer training</td>
<td>3, 4</td>
<td>P; 1–3 (eo)</td>
<td>(*)</td>
<td>2, 3 (eo)</td>
<td>4–7 (eo)</td>
<td>3, 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional mobility</td>
<td>P; 1–3 (eo)</td>
<td>4 (eo)</td>
<td>1–3 (eo)</td>
<td>4–7; 9–12 (eo)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Assistive devices (self-care)</td>
<td>P; 1–3 (eo)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Durable medical equipment</td>
<td>P; 1</td>
<td></td>
<td></td>
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<tr>
<td>Patient and family education</td>
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<td></td>
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<tr>
<td>Hip precautions</td>
<td>(*)</td>
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<td>(*)</td>
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<tr>
<td>Household activity</td>
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<tr>
<td>Home safety</td>
<td>2</td>
<td>P; 1–2</td>
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<tr>
<td>Joint protection</td>
<td>P; 1–3 (eo)</td>
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<tr>
<td>Work simplification</td>
<td>P; 1–3 (eo)</td>
<td></td>
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<tr>
<td>Unspecified evaluation or treatment</td>
<td>1</td>
<td>P</td>
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<tr>
<td>Pathway disclaimer</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

Note. ELOS = estimated length of stay within pathway; P = preoperative day of occurrence; A = day of admission; sd = day of surgery; ADL = activities of daily living; digits 1–12 = postoperative day of occurrence; (eo) = expected outcomes; (*) = benchmark present, but not specifically identified as occupational therapy; prn = as needed; X = indicated item present in pathway.
that occupational therapy would address functional transfers was a benchmark identified in five of the pathways, as was the use of assistive devices in self-care. Differences were noted among pathways in estimated length of stay, the frequency and type of benchmarks identified, the days on which occupational therapy occurred, and the use of additional protocols or detailed expected outcomes.

Table 2 outlines the disciplines identified within the sample. Most commonly noted were nursing, occupational therapy, and physical therapy. These were followed in frequency of consult or intervention by home health care, social service, and anesthesiology. The professional titles less frequently identified within the pathway were the physician, psychiatrist, case manager, dietitian, respiratory therapist, and pathway unit leader.

Each pathway made provision for documentation of the variance from following the pathway benchmarks outlined for a specific day (see Table 3). Five pathways assigned variance codes with clarifiers (e.g., patient and family—condition, complication, availability, decision, other) and provided additional subcategories for further clarification of the variance (e.g., patient condition—deep vein thrombosis, constipation, anxiety, lack of motivation). Two pathways further set forth the expectation of documentation on the action taken regarding a variance and the outcome of that action.

**Discussion**

ADL was the most common occupational therapy benchmark indicated in these eight orthopedic (hip) critical pathways. ADL was consistently listed as a separate procedure from transfer training or use of assistive devices, thus reflecting language different from that of *Uniform Terminology for Occupational Therapy* (American Occupational Therapy Association [AOTA], 1994). Transfer training, assistive devices, and functional mobility were also often-used benchmarks, but not with the same frequency as ADL. Additional occupational therapy benchmarks that were not uniform throughout the sample further clarified the role of occupational therapy (e.g., hip precaution education, work simplification, household activities). This array of occupational therapy benchmarks suggests that the scope and complexity of the role of occupational therapy in enhancing function makes a single benchmark difficult to identify, and this has an impact on the ability to identify what should be deemed the best practice in occupational therapy (Roark, 1997; Rundell & Banks, 1996).

**Conclusion**

Critical pathways were designed to identify effective and efficient components involved in patient care (Freeman & Chambers, 1997). Effective and efficient components are those disciplines that can demonstrate that their services have a favorable impact on treatment outcomes and lengths of stay and control costs (Federwisch, 1996; Freeman & Chambers, 1997; Roark, 1997).

Occupational therapy benchmarks within orthopedic (hip) critical pathways need further study to validate the findings of this small, geographically focused sample. Nonetheless, the occupational therapy benchmarks identified in this sample of pathways are consistent with the functional approach embedded in the occupational therapy practice guidelines developed by AOTA (1995). To demonstrate the overall value of occupational therapy services in patient care, occupational therapy practitioners need to develop functional and performance outcomes.
measures within the occupational therapy benchmark and use protocols that define expected outcomes (Colburn & Robertson, 1997; Rogers & Holm, 1994; Rogers & Salta, 1994).

Inclusion of a health care service provider, such as an occupational therapy practitioner, on a critical pathway suggests that the provider is recognized as a possible means of delivering quality, cost-effective care. That occupational therapy benchmarks occur with as much frequency as nursing and physical therapy benchmarks within the eight orthopedic (hip) critical pathways sampled suggests that occupational therapy is recognized as a possible source of quality, cost-effective care. To retain a presence within multidisciplinary pathways, the role of the occupational therapy provider will require clarity in description and definition. ▲

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