Health Policy Perspectives

Justifying Rehabilitation Intensity Through Functional Performance Measures in Postacute Care

Christine Kroll, Thomas Fisher

The Centers for Medicare and Medicaid Services (CMS) has scrutinized the provision of rehabilitation services in skilled nursing facilities (SNFs) for some time. Little research guidance exists on appropriate dosage or rehabilitation intensity (RI) among SNF patients or patients in other postacute care (PAC) settings. CMS developed a PAC assessment, the Continuity Assessment Record and Evaluation (CARE) Tool, in response to questions about what issues drive placement in various PAC settings under Medicare. The ability to adequately assess functional outcomes and correlate them to the RI provided by using the CARE Tool is promising. However, further research, policy advocacy, and practice analysis must be undertaken to promote and protect adequate access to occupational therapy and physical therapy in SNFs and other PAC settings. Individual practitioners must participate in data gathering to ensure that the data for analysis are fully informed by the occupational therapy perspective.


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Scarcely any research is available on the optimal intensity of occupational therapy to provide the best functional outcome among skilled nursing facility (SNF) patients. The Centers for Medicare and Medicaid Services (CMS) has questioned just how much therapy should be paid for by Medicare. Concerns about appropriate utilization and costs have been expressed in reports from the Medicare Payment Advisory Committee (MedPAC; 2017). In several pieces of legislation, Congress has pushed for more and better data on postacute care (PAC), which includes data from SNFs, home health, and inpatient rehabilitation facilities (IRFs) and units.

The quest for more and better data on which patients went to which PAC settings and why led to the development of the Continuity Assessment Record and Evaluation (CARE) Tool (Gage et al., 2012). The CARE Tool is now being used in part as an item bank for uniform PAC assessment data collection. This effort was driven in part by the passage of the Improving Medicare Post-Acute Care Transformation Act (IMPACT Act; 2014). The use of the CARE Tool item sets, which are incorporated into PAC settings’ interdisciplinary team (IDT) assessments, provides an opportunity to gather data on the rehabilitation intensity (RI) provided along with data on the change in functional performance achieved during PAC episodes.

Occupational therapy practitioners have addressed the functional performance of humans since the profession’s inception in 1917 (Meyer, 1922). Because of this early heritage, occupational therapy should take a prominent place in crafting and implementing functional measurements to be used in PAC settings to ensure accurate reporting of patient functional capacity and needs. Gathering these data will also lead to better intervention and treatment planning, which are also goals of the IMPACT Act.

This article focuses on health care reform changes, the development of a standardized PAC data set for all PAC settings, and how occupational therapy as a profession...
must work to support both the provision of the appropriate amount of therapy and the achievement of functional performance outcomes.

Health Care Reform

Health care reform is advancing rapidly; continual legislative and regulatory changes have resulted in major changes every few years, which has placed enormous pressure on providers in all health care settings that serve Medicare beneficiaries not only to adopt changes but also to look to the future to see how providers can be in the vanguard of health care reform. Table 1 lists several key legislative acts related to health care reform. In light of current opportunities, occupational therapy must demonstrate its effectiveness in order to be viable in the future.

The amount of money spent on health care—and the settings in which it has been spent—has fueled questions about U.S. health care system reform for decades. Yerxa (1990) noted that the movement of health care toward a focus on acute care was causing concern regarding care for people with chronic conditions. Then Kilgore (1995) identified SNFs, home health agencies (HHAs), and IRFs as PAC settings; the system had changed focus somewhat to address long-term care, including care for those with chronic conditions. Kilgore also discussed the possibility of measuring outcomes across all PAC settings to increase effectiveness and improve patient care. More than a decade later, Kaplan (2007) noted that Medicare spending in PAC settings was increasing by 7% each year and that whether different PAC settings were more or less effective for some patients was not clear.

Occupational therapy is a critical component of the PAC landscape. In 2014, Medicare spent $28.9 billion on SNF care, which equates to 49% of total PAC spending in 2014 (Committee on Ways and Means, 2016). In 2015 alone, Medicare expected to pay $31 billion to SNFs for skilled (Medicare Part A) services. Rehabilitation services are a primary skilled service provided to the vast majority of Medicare Part A patients in SNFs and other PAC settings, often directly affecting payment levels for this care. According to the American Occupational Therapy Association’s (AOTA’s; 2015b) workforce analysis, 19% of occupational therapists and 56% of occupational therapy assistants work in SNFs, showing the extent of occupational therapy utilization in the SNF setting.

Few research studies have explored RI and its effect on outcome measurements despite the pressures of health care reform initiatives (Johnston, Graves, & Greene, 2007). Additionally, the lack of comparable measures across PAC settings has been a barrier to further analysis related to rehabilitation outcomes, as well as intensity, in Medicare PAC settings (Bryant, Floersch, Richard, & Schlenker, 2004; Dejong, 2014; Haley et al., 2011). Following the directions charted by the demonstration projects under the Deficit Reduction Act of 2005 (DRA), Congress passed the IMPACT Act of 2014, which mandates the collection of consistent variables across all PAC settings and the use of those data to build outcome measures and resource utilization measures (DeJong, 2014). This follows the general trend in health care to emphasize outcomes and quality over quantity, or volume, of services.

Recent research using analysis of large databases has supported occupational therapy’s positive impact. A study of the Canadian health care system used economic data and indicators to demonstrate occupational therapy’s value in reducing costs and improving outcomes in many areas of care (Rexe, Lammi, & von Zweck, 2013). In the United States, Rogers, Bai, Lavin, and Anderson (2017) used Medicare claims and cost report data to review the relationship between spending on specific hospital inpatient services and rate of readmission to the hospital for specific diagnostic groups: people with heart failure, pneumonia, and acute myocardial infarction. These diagnostic categories were chosen by the researchers because CMS had selected them for particular attention as a result of the cost of care for beneficiaries with these conditions. Rogers et al. found that occupational therapy was the only spending category that demonstrated statistical significance in relation to reduced readmission rates; this was true for all the diagnostic categories. Their study demonstrates the value of using secondary analysis of large databases to extrapolate effectiveness of services and their relation to Medicare outcome measures, in this case readmission rates for acute care. Rogers et al.’s results support the use of specified data set items rather than looking at overall outcomes—in other words, analyzing spending on specific services versus simply reviewing aggregate spending.

Good and consistent data on PAC are lacking, however. This gap was first addressed in a 3-yr demonstration project to identify

Table 1. Selected Health Care Reform Legislation Affecting Postacute Care

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<tr>
<th>Legislation</th>
<th>Significant Action for Settings and Health Care Reform</th>
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<tr>
<td>Balanced Budget Act of 1997 (Pub. L. 105-33)</td>
<td>Required Medicare to change to a prospective payment system for all PAC settings. Required that skilled nursing facilities be paid by a per diem for Medicare Part A largely on the basis of therapy utilization.</td>
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<td>Deficit Reduction Act of 2005 (Pub. L. 109-171)</td>
<td>Tasked CMS with developing a uniform PAC assessment; the project, called the Post-Acute Care Payment Reform Demonstration, included a 3-year trial of the Continuity Assessment Record and Evaluation Tool.</td>
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<tr>
<td>Improving Medicare Post-Acute Care Transformation (IMPACT) Act (2014; Pub. L. 113-185)</td>
<td>Required CMS to develop a system and require all PAC settings to report standardized patient assessment, quality, and resource utilization data.</td>
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Note. CMS = Centers for Medicare & Medicaid Services; PAC = postacute care.
and collect data on PAC, prompted by the DRA (Sec. 5008). The DRA resulted in the development of the CARE Tool, which was originally designed to analyze use of PAC by means of a unified data set of items related to patient-centered care and outcomes.

The collection of good data is a growing challenge because patient characteristics are necessarily linked to outcomes data. Health care policies are shifting to a focus on quality and value (Leland, Crum, Phipps, Roberts, & Gage, 2015). As a result of the pressure to provide higher quality care for less cost, occupational therapy practitioners must be vigilant in developing measures that reflect the value of their services in achieving optimal patient outcomes (Leland et al., 2015). Structured analysis of measures that have already been developed may lend itself to that end.

Medicare Quality Reporting Programs

The IMPACT Act mandated many initiatives to further tie PAC reimbursement to quality of care versus volume of care. This legislation was intended to build on previous quality reporting programs (QRPs) instituted by CMS under Medicare. Implementation of the new data elements and measures is evolving, and future measures are planned. The full set of QRP measures can be found in CMS (2015).

The measures selected for the SNF QRP under the IMPACT Act pertain to pressure ulcers (new or worsening), falls with major injury, and change in functional and cognitive status, all of which are of concern to occupational therapy. These measures were made part of the SNF Minimum Data Set (MDS), the IDT assessment for SNFs for care plan development and for payment (CMS, 2017). The MDS already captured pressure ulcer and fall measures. The measures assessing change in functional and cognitive status, including mental status, are new required items to be added to the MDS for the purpose of the QRP. These items do not as yet address change in cognition, but such items are in development (for information on AOTA’s involvement, see AOTA, 2015a). Data collection in SNFs for the QRP began October 1, 2016 (see also Giles, Edwards, Morrison, Baum, & Wolf, 2017).

The change-in-functional-status data items added to the MDS came from the CARE Tool item set. Gage et al. (2007) reported on the development of the CARE Tool, developed by CMS through a contract to RTI International to develop a PAC assessment tool for use in all PAC settings. The Post-Acute Care Payment Reform Demonstration tested the CARE Tool from 2008 to 2009 and finalized its development. Although the CARE Tool has not been implemented in its entirety, Gage et al. (2012) established its reliability. On the basis of their results, the CARE Tool became the first psychometrically robust assessment data set used to measure patient care and outcomes across all PAC settings (Gage et al., 2012). The CARE Tool was originally designed to identify characteristics that affected PAC setting choices, but it has been used to fill the need for quality assessment items. Although all PAC settings were required to collect outcomes data before validation of the CARE Tool, no outcome measures had been standardized across all PAC settings (Gage et al., 2012). The CARE Tool was originally designed to identify characteristics that affected PAC setting choices, but it has been used to fill the need for quality assessment items. Although all PAC settings were required to collect outcomes data before validation of the CARE Tool, no outcome measures had been standardized across all PAC settings (Gage et al., 2012).

The MDS consists of many sections, each of which focuses on a different area of patient care or performance. The current Section G focuses on self-care performance and assistance provided to patients. The functional change items from the CARE Tool were put into a new MDS section, Section GG, which was created because the scoring scale for these items differs from that used in Section G. The self-care and mobility items in Section GG also come from the CARE Tool. The self-care items are eating, oral hygiene, and toileting hygiene. The mobility items go beyond those in Section G to include sitting to lying, lying to sitting on the side of the bed, sit to stand, chair- or bed-to-chair transfer, toilet transfer, walk or wheel 50 ft, and walk or wheel 150 ft. Complete information, as well as access to training, is available from CMS (2016).

The self-care and mobility items were found to be reliable at the item level (Gage et al., 2012). All the MDS items are considered interdisciplinary, which means that IDT members in any discipline may provide input or code the items. An SNF may designate specific MDS items for certain members of the IDT for convenience, consistency, and work distribution. Occupational therapy practitioners can provide input into the Section GG self-care and mobility items, but individual facility practices may vary. Occupational therapy practitioners must advocate for their ability to inform these areas of care at the facility level as well as in relation to policy at the CMS level.

Rehabilitation Intensity and Functional Performance Change

Changes in SNF and other PAC quality reporting and monitoring make it critical that occupational therapy practitioners discuss the amount, frequency, and duration—the RI—of occupational therapy services in PAC. Scrutiny of rehabilitation services provided in PAC settings has increased, as confirmed by Johnston et al. (2007), but that scrutiny has not included in-depth analysis of utilization and effect. More research is needed on the RI required to achieve a sustainable patient outcome, which is where the real reform of the system will occur. Medicare and other health systems and payers appear to be taking a view toward long-term health as opposed to incident-related care and treatment. Little to no evidence quantifies the RI required to achieve an optimal patient outcome (Chen, Heinemann, Granger, & Linn, 2002; Johnston et al., 2007). Clinical and policy decisions for PAC settings should be based on quality and outcome measurements (Duncan & Velozo, 2007), and occupational therapy needs more of this information, including information on RI, to make good decisions about frequency, duration, repetition, and follow-up.

To determine occupational therapy’s effectiveness in producing optimal clinical outcomes in an SNF setting, it is critical to identify the relationship between RI and changes in functional performance. Some research has reviewed this relationship, but it has used assessments standardized to particular PAC settings (Jette, Warren, & Wirtalla, 2005; Mallinson et al., 2011, 2014). For instance, Jette et al. (2005) explored the connection between RI, calculated as total therapy units (1 unit = 15 min) divided by
the rehabilitation length of stay (LOS), and therapeutic outcomes in SNFs. They measured functional outcomes with the mobility, self-care, and executive functioning domains of the FIM®, which are primarily used in IRFs. The study focused on the Medicare C+ (Medicare Advantage) plans to determine the impact of the payer on functional outcomes and LOS in relation to RI. Participants were limited to those with Medicare C+ plans, and diagnostic categories were limited to stroke, orthopedic conditions, and cardiovascular and pulmonary conditions. Jette et al. found that higher RI was associated with shorter LOS in an SNF. The discipline-specific intensities provided evidence that associated each discipline with one or more of the diagnostic categories (stroke, orthopedic, or cardiovascular and pulmonary conditions) and specific functional domains (mobility, activities of daily living [ADLs], and executive functioning). However, the RI did not contribute, at a statistically significant level, to the functional performance changes in mobility, ADLs, and executive functioning (Jette et al., 2005).

Another study looked at the intensity of therapy across several PAC settings. Mallinson et al. (2011) compared discharge functional status of patients across HHA, IRF, and SNF settings, using the Inpatient Rehabilitation Facility–Patient Assessment Instrument (IRF–PAI) to measure self-care and mobility status. They found that RI did not appear to make a difference in patient outcome measures between the SNF and IRF. This result was related to variations in the patients: Medical complexity of patients differed between the HHA setting (less medically complex) and the SNF and IRF settings (more medically complex), so direct comparisons could not be easily made. This study claimed no clear overall conclusions regarding relationship between RI and functional performance.

Subsequently, Mallinson et al. (2014) investigated the functional discharge status of patients in the same three PAC settings, also using the IRF–PAI, as required by Medicare. They measured functional performance outcomes in all settings using the FIM self-care and mobility domains. Participants were limited to those treated in PAC settings after a hip fracture repair. The results indicated that HHA patients were typically higher functioning at admission, whereas SNF patients tended to be more chronically ill at admission, and IRF patients tended to be more acutely ill. These data factors limited the study; the relationship between RI and functional status at discharge was still unclear.

The Jette et al. (2005) and Mallinson et al. (2011, 2014) studies were significant in that they provided insight into different areas of PAC and their relationship to acute or chronic medical conditions, settings, and therapy intensities. These studies’ limited results support the need for further investigation of RI’s effect on functional performance outcomes. We believe that in the near future, the implementation of the IMPACT Act will result in some consistency in data elements and provide better data for analysis.

Rehabilitation Intensity and the CARE Tool

New research is paving a way to address the relationship between RI and functional performance outcomes. Kroll (2016) conducted preliminary research using the CARE Tool self-care and mobility item sets to establish a connection between RI and functional performance changes in the SNF PAC setting.

Kroll focused on two diagnostic categories, orthopedic and medically complex, and reviewed only Medicare fee-for-service beneficiaries who returned to the community after discharge from rehabilitation services in an SNF. The diagnostic categories were selected from predefined groupings of International Classification of Diseases (9th ed.) diagnostic codes available in the electronic documentation software. Kroll (2016) used a mixed multiple model regression analysis to develop statistical models examining the relationship between the independent variable (RI) and the dependent variables (LOS and functional performance change) and included diagnostic category as a covariate. The regression analysis demonstrated correlations between RI and LOS when combined with the covariate, $p = .004$. The correlation between RI and functional performance change was significant for self-care change, $p < .001$, and mobility, $p = .04$. The diagnostic category analysis demonstrated a significant effect of diagnostic category on LOS and functional performance change, $p < .001$, but only mobility was significant, $p = .007$.

The purpose of Kroll’s (2016) study was to identify whether an association existed between RI and functional performance change using the newest assessment data set put forward under IMPACT. Kroll attempted to link critical domains of occupational therapy intervention, which can set the stage for further investigations of reforms in both data collection and quality evaluation in PAC. The correlation between RI and self-care section data supported occupational therapy’s involvement in both areas.

Occupational therapy intervention, by its nature, principles, and knowledge base, focuses on self-care tasks as part of addressing ADLs to enhance quality of life. The future of the occupational therapy profession will depend on affirming the connection between occupational therapy and functional performance change, including self-care intervention for return to home. Research can also build on the type of study and outcomes derived by Rogers et al.’s (2017) hospital-based study, in which occupational therapy was the only spending category that significantly affected hospital readmission rates.

As use of the CARE Tool items becomes required by Medicare, more research will be possible. These data will be publicly accessible, so occupational therapy researchers must enhance their capacity to complete this kind of work. Large database research could reveal robust connections among RI, functional performance improvement, and occupational therapy in particular. In addition, more research is needed to compare the therapy needs of those discharged to the community with the needs of those who continue to reside in long-term care facilities.

Implications for Occupational Therapy Practice

Occupational therapy practitioners need to identify which outcome measures are being used in PAC settings and seek to have input into the assessment of or screening for those measures at the facility level. Coding
of MDS items may be designated to a particular discipline for the sake of convenience, leaving occupational therapy out of the process. Moreover, occupational therapists might prefer that coding of items be delegated to another discipline to decrease workload. However, if the coded measures do not accurately represent the functional performance needs or gains achieved and outcomes do not support the cost of the intervention, then occupational therapy’s significance could be diminished. We believe that accurate coding is best completed by the discipline providing the intervention related to the outcome measures. Occupational therapists in an SNF or other PAC setting can, under Medicare guidance, code not only the self-care measures but also the mobility measures. Occupational therapy addresses functional mobility with interventions related to ADLs and instrumental ADLs, but practitioners must step up to be involved at this level.

AOTA has worked and continues to work in the prelegislative, legislative, and regulatory implementation process required to develop new outcome measures (AOTA, 2015a). Further research with much larger databases of Medicare-identified outcomes is possible, and occupational therapy has an opportunity to participate. However, good analysis depends on the input of good data. In addition to promoting research, every individual practitioner in a PAC setting must be involved in recording data and must take responsibility for accurate coding of patient functional changes. The success of future research and occupational therapy’s future in PAC settings will be ensured only if researchers are provided the correct analysis of patient needs and outcomes through accurate and informed reporting, beginning with the involvement of and vigilant implementation by practitioners in every PAC setting. ▲

References


Errata


In the Volume 71 article “Primary Care for Underserved Populations: Navigating Policy to Incorporate Occupational Therapy Into Federally Qualified Health Centers,” by Aileen D. Murphy, Vanessa M. Griffith, Tracy M. Mroz, and Tracy L. Jirikowic, Theresa Berkeridge should be included as a co-author. A corrected version is available at https://doi.org/10.5014/ajot.2017.712001.

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