

Justifying Rehabilitation Intensity through Functional

Performance Measures in Post-Acute Care

by

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Abstract

The Centers for Medicare and Medicaid Services (CMS) has scrutinized the provision of rehabilitation services in skilled nursing facilities (SNF) for some time (*Medicare Payment Policy*, 2016). There is little research guidance on appropriate dosage or rehabilitation intensity (RI) among SNF patients or patients in other Post Acute Care (PAC) settings. There is a single assessment tool, the Minimum Data Set (MDS) in use in all SNFs, but this is being revised. The Centers for Medicare and Medicaid services developed a PAC assessment, the Continuity Assessment Record and Evaluation (CARE) Tool (Gage et al., 2012) in response to questions about what issues drove placement in various post acute settings under Medicare. Parts of the CARE Tool are being considered as an item bank for use as part of uniform post-acute care assessment data collection. Some items have been included in revisions of the data collection in PAC. This effort has been driven in part by the passage of the Improving Medicare Post Acute Care Transformation Act (IMPACT, 2014). Recent research using portions of the CARE Tool, the Mobility and Self-Care scales, has demonstrated a positive correlation between rehabilitation services intensity and functional outcomes for rehabilitation patients in SNF's as well as a correlation between RI, the medical condition, and LOS (Kroll, 2016). The ability of the CARE Tool to adequately assess functional outcomes and correlate to rehabilitation intensity (RI) provided 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 post acute settings. Also, individual practitioners must step up to participate in data gathering on domains of occupational therapy practice to assure that the data for analysis is fully informed by the occupational therapy perspective.

Key Words: rehabilitation intensity, occupational therapy, CARE Tool, skilled nursing facility, functional performance, Medicare

There is scarce research 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 Medicare should be paying for. Concerns have been expressed in reports from the Medicare Payment Advisory Committee (MedPAC) (Medicare Payment Policy, 2016) about appropriate utilization and costs. Congress pushed for more and better data on post acute care (PAC), which includes SNFs, home health (HH), and inpatient rehabilitation facilities and units (IRFs) in several pieces of legislation. The quest for more and better data on which patients went to which post-acute care settings and why lead 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 post-acute care (PAC) assessment data collection. This effort was then driven forward in part by the passage of the Improving Medicare Post Acute Care Transformation Act (IMPACT, 2014). The use of the CARE Tool item sets, incorporated into the PAC settings interdisciplinary team (IDT) assessments, provides an opportunity to gather data on the rehabilitation intensity provided along with data on the functional performance change achieved during PAC episodes of care. Occupational therapy (OT) practitioners have addressed the functional performance of humans since the inception of the profession in 1917 (Meyer, 1922). Because of this early heritage, Occupational therapy needs to take a prominent place in crafting and implementing functional measurement to be used in PAC settings to assure accurate reporting of patient functional capacity and needs. Gathering the correct data will also lead to better intervention and treatment planning. This is also a goal of the IMPACT Act (IMPACT, 2014).

This article focuses on health care reform changes, the development of a standardized PAC data set for all PAC settings, and how OT as a profession must work to support both the appropriate amount of therapy being provided and the achievement of functional performance outcomes. Health care reform is advancing rapidly; no longer will it take the government 10 years to make a change. Regular legislative and regulatory changes have pushed up the rate of change to a few years. This has placed enormous pressure on providers in all health care settings serving Medicare beneficiaries to not only adopt changes, but to look to the future to see how they can get ahead of the curve and be in the forefront of health care reforms.

Health Care Reform

Health care reform is advancing rapidly; based on recent rapid changes no longer will it take the government or providers 10 years to make a change. Continual legislative and regulatory changes have pushed up the rate of change to a few years. This has placed enormous pressure on providers in all health care settings serving Medicare beneficiaries to not only adopt changes, but to look to the future to see how they can get ahead of the curve and be in the forefront of health care reforms.

The amount of money spent on health care - and in which settings it was provided - has fueled health care reform in the U.S. for decades. Yerxa et al. (1990) noted that the movement of health care toward acute care at that time was causing concern regarding care for chronic conditions. Then Kilgore (1995) identified skilled nursing facilities (SNFs), home health agencies (HHAs), and inpatient rehabilitation facilities (IRFs) as post-acute care (PAC) settings; the system had changed focus somewhat to address long term care including chronic condition care. Kilgore also discussed the possibility of measuring outcomes across all PAC settings to increase

effectiveness and improve patient care. Over a decade later, Kaplan (2007) noted that Medicare spending in PAC settings was increasing by seven percent each year and that it was not clear if different PAC settings were more or less effective for some patients.

Occupational therapy is a critical component of the landscape of PAC. In skilled nursing facilities (SNF) alone, Medicare expected to pay \$31 billion in 2015 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 t care. According to American Occupational Therapy Association's (AOTA) workforce analysis, 19% of occupational therapists and 56% of occupational therapy assistants work in SNFs, showing the extent of occupational therapy utilization to the SNF setting (AOTA, 2015b). In 2014, Medicare spent 28.9 billion dollars on SNF care, which equates to 49% of total PAC spending in 2014 (Medicare Payment Policy, 2016).

Few research studies have explored rehabilitation intensity (RI) and affect 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 DRA, Congress passed the Implementation of the Improving Medicare Post Acute Care Transformation (IMPACT) Act of 2014, which mandates the creation of consistent data on patient characteristics across PAC settings as well as using that data to build outcome measures and resource utilization measures (DeJong, 2016). This follows the general trend in health care to emphasize outcomes and quality over quantity of services, or volume.

Recent research using large database analysis does support the positive impact of occupational therapy. A study on the Canadian health care system used economic data and indicators demonstrating the value of occupational therapy to reducing cost and improve outcomes in many areas of care (Rexe, Lammi, & Zweck, 2013). In the U.S., Rogers, Bai, Lavin & Anderson (2016) used Medicare claim and cost report data to review the relationship between spending on specific hospital inpatient services and the rate of readmission to the hospital for specific diagnostic groups: heart failure, pneumonia, and acute myocardial infarction. These diagnostic categories were chosen by the researchers because they have been selected by CMS for particular attention due to the cost of care for beneficiaries with these conditions. Rogers et al. (2016) found that occupational therapy (OT) was the only spending category demonstrating a statistical significance in relation to reduced readmission rates; this was true for all the diagnostic categories. Roger's study demonstrates the value of using secondary analysis of large databases to extrapolate effectiveness of services and to relate to Medicare outcome measurements, in this case readmission rates for acute care.

Roger et al. (2016) supports the use of specified data set items instead of looking at overall outcomes, meaning analyzing spending on specific services versus simply reviewing aggregate spending. However, good and consistent data in PAC is lacking. This gap was first addressed in a three-year demonstration project to identify and collect data across PAC, prompted by legislation passed by Congress as noted above. (Deficit Reduction Act, Sec. 5008). This resulted in the development of the aforementioned CARE tool, which was originally designed to analyze use of PAC through a unified data set of items related to patient-centered care and outcomes.

Collecting good data is an expanding challenge as patient characteristics are necessarily being linked to outcomes data elements. Health care policies are shifting to a focus on quality and value (Leland, Crum, Phipps, Roberts & Gage, 2015). As a result of the pressures to provide higher quality care for less cost, OT must be vigilant about developing measures that reflect the value of their services toward achieving optimal patient outcomes (Leland et al, 2015).

Measures already developed may lend themselves to that end through structured analysis.

Selected Health Care Reform Legislation Affecting PAC

Legislation	Significant Action for SNFs and Health Care Reform
Balanced Budget Act (BBA) of 1997 (P.L. 105-33)	Required Medicare to change to a prospective payment system (PPS) for all settings. SNFs now paid by a per-diem for Medicare Part A episodes of care based largely on therapy utilization.
Medicare Prescription Drug Improvement and Modernization Act (MMA) of 2003 (P.L. 108-173)	Implemented quality improvement program developments. Required development of pay for performance for physicians
Deficit Reduction Act (DRA) 2005 (P.L. 109-171)	Tasked CMS with developing a uniform PAC assessment; PAC-PRD and conducting a three-year trial
Improving Medicare Post -Acute Care Transformation (IMPACT) Act of 2014 (P.L. 113-185)	Required CMS to develop a system and require all PAC settings to report standardized patient assessment, quality, and resource utilization data.

Medicare Quality Reporting Programs

The IMPACT Act mandated many initiatives to make over the PAC setting payments and practices to further tie reimbursement to quality of care versus volume of care. This legislation was to build on previous quality reporting programs (QRP) instituted by CMS under Medicare. The implementation of the new data elements and measures is evolving and future measures are planned. The full set of QRP measures are viewable at [https:// www.cms.gov/Medicare/Quality-](https://www.cms.gov/Medicare/Quality-)

Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/IMPACT-Act-of-2014-and-Cross-Setting-MeasuresMeasures.html.

The measures selected for the SNF QRP program under IMPACT Act involve pressure ulcers (new or worsening), falls with major injury, and change in functional and cognitive status, all of which are in the domain of concern for occupational therapy. These measures were placed on the SNF Minimum Data Set (MDS), the IDT assessment for SNF's for care plan development and for payment. The pressure ulcer and fall measures were already being captured on the MDS. The measures involving changes in functional and cognitive, including mental status, are new and required new items to be added to the MDS for the purpose of the QRP program. The items used in the QRP for change in functional and cognitive status do not address change in cognition as yet but items are under development, see AOTA's involvement at www.aota.org/Advocacy-Policy/Federal_Reg_Affairs/News/2015/Request-Medicare-IMPACT-Data-Functional-Cognition.aspx. Data collection in SNFs for QRP began October 1, 2016. See also another Health Policy Perspectives column, Screening for Functional Cognition in Postacute Care and the Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014 (Giles et al, 2017)

The functional change 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 (formerly Research Triangle Institute). The contract was to develop a PAC assessment tool for use in all PAC settings. The Post Acute Care Payment Reform Demonstration (PAC-PRD) tested the CARE Tool from 2008 to 2009 and finalized the CARE Tool's development. While CARE Tool has not been implemented in its entirety, the tool was tested by Gage et al. (2012) to establish the rater and inter-rater reliability for the CARE Tool

item set. Based on the result, the CARE Tool became the first psychometrically robust assessment data set for measuring 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 has been used to fulfill needs for items to assess quality. Prior to the CARE Tool, while all PAC settings were required to collect outcomes data, no outcome measures were standardized across all PAC settings.

In order to accommodate the new functional change items required by the IMPACT Act into the MDS, a new section on the MDS was created and named “Section GG.” The entire MDS consists of many sections each focused on a different area of patient care or performance, the current Section G is focused on self-care performance and the assistance provided. The functional change items from the CARE Tool were put into the new Section GG. The separate MDS Section GG was created because the scoring scale for the items in this section is different from the scoring scale used for the MDS Section G. The items for self-care included in Section GG were eating, oral hygiene, and toileting hygiene. The items for mobility included in Section GG went beyond Section G to include sit to lying, lying to sitting on side of bed, sit to stand, chair/bed-to-chair transfer, toilet transfer, walk/wheel 50 feet, walk/wheel 150 feet. Complete information as well as access to training is available at <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/Skilled-Nursing-Facility-Quality-Reporting-Program/SNF-Quality-Reporting-Program-IMPACT-Act-2014.html>.

The self-care and mobility items for the MDS Section GG all came from the CARE Tool and tested as reliable at the item level (Gage et al, 2012). All the MDS items are considered IDT, this means that any discipline may provide input and/or code the items. A SNF may designate specific MDS items for certain members of the IDT for convenience, consistency, and

work distribution. Input may be provided for the Section GG self-care and mobility items by occupational therapy practitioners; however, individual facility practices may vary. This is an area where 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

These changes in SNF and other PAC quality reporting and monitoring make it critical for occupational therapy to discuss the amount, frequency and duration of occupational therapy services in PAC. This can be referred to RI as noted. CMS has increased the scrutiny of rehabilitation services provided in PAC settings, confirmed by Johnston et al. (2007), but that scrutiny does not really include an in-depth analysis of utilization and effect. More research is needed on the RI required to achieve a sustainable patient outcome because that is where there will be the real reform of the system. Medicare and other health systems and payers appear to be looking toward a view of long term health as opposed to incident-related care and treatment. The state of the research is that there is little to no evidence that quantifies the RI required to achieve an optimal patient outcome (Chen, Heinemann, Granger, & Linn, 2002; Johnston et al., 2007). Quality and outcome measurements should be the basis upon which clinical and policy decisions are made for PAC settings (Duncan & Velozo, 2007). However, the profession of occupational therapy needs more of this information, including on RI, to make decisions about frequency, duration, repetition and followup properly and well. Identifying the relationship between functional performance changes and RI provided is critical to determining the effectiveness of occupational therapy in producing optimal clinical outcomes in a SNF setting.

While there has been some research reviewing rehabilitation services amounts and functional performance changes, that research used other established assessments, standardized

to a particular PAC setting and while very useful more and expanded research is needed. Jette et al. (2005) and Mallinson et al. (2011, 2014) provided research which included the RI as a variable along with measures of functional performance changes. However, the focus of the studies targeted different payers and differences in settings rather than the RI's impact on functional performance changes in a single PAC setting. Review of these studies revealed they were unable to claim a statistically significant connection between RI and functional performance changes (Kroll, 2016) often because of the scope of the research question or the data.

For instance, Jette et al. (2005) conducted a study to explore the connection between RI and therapeutic outcomes in SNFs. In this study, total therapy units (unit=15 minutes) divided by the rehabilitation length of stay (LOS) calculated the RI. To measure functional outcomes the study used the mobility, self-care, and executive functioning domains from the Functional Independence Measure (FIM), primarily used in IRFs. The study was focused on only part of the Medicare universe;). Jette's study focused on the Medicare C+ (Medicare Advantage) plans to determine the impact of the payer on functional outcomes and length of stay in relation to RI .Participants were limited to those with Medicare +C [Medicare Advantage] plans and diagnostic categories were limited to stroke, orthopedic conditions and cardiovascular and pulmonary conditions. The study associated a higher RI provided with a shorter LOS in a 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, ADL, and executive functioning). However, the RI did not contribute, at a statistically significant level, to the functional performance changes in mobility, ADL, and executive functioning (Jette et al., 2005 Another study looked at the intensity

of therapy across several PAC settings. Mallinson et al. (2011) conducted a study to compare the discharge functional status of patients across HHA, IRF, and SNF, using the Inpatient Rehabilitation Facility-Patient Assessment Instrument (IRF-PAI) to measure self-care and mobility status. Mallinson found the intensity of therapy did not appear to make a difference in the patient outcome measures between the SNF and IRF. This result was related to the variations in the patients. The medical complexity of patients differed between HHA (less medically complex) and SNF and IRF setting (increased medical complexity) so that direct utilization 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, including SNF, IRF, and HHA. The study used the IRF-Patient Assessment Instrument (IRF-PAI) required by Medicare. Focus was on the self-care and mobility domains to measure the functional performance outcomes in all settings. To further focus the study, 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, while SNF patients tended to be more chronically ill, and IRF patients tended to be more acutely ill at admission. These data factors limited the study; the relationship between RI and functional status at discharge was still unclear.

It is important to note that these studies, Jette et al. (2005) and Mallinson et al. (2011, 2014), were significant in that they provided insight into different areas of PAC, relationship to acute or chronic medical conditions, settings, and therapy intensities. The limited results of these studies support the need for further investigation concerning the effect that RI has on functional performance outcomes. In the near future, we believe that the data elements, coming through

IMPACT Act implementation to achieve some consistency, will provide much better data to be analyzed.

Rehabilitation Intensity and the CARE Tool

Some new research is paving a way for addressing this issue. Preliminary research using the CARE Tool item set for self-care and mobility to establish a connection between RI and functional performance changes in the SNF PAC setting was conducted by Kroll (2016). 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 a SNF. The diagnostic categories were selected from pre-defined groupings of ICD-9 diagnostic codes available within the electronic documentation software.

Kroll (2016) used a mixed multiple model regression analysis to develop statistical models between the independent variable (RI), the dependent variables (length of stay and functional performance change), and included the diagnostic category as a covariate. The regression analysis demonstrated correlations between RI and the length of stay (LOS) when combined with the covariate, $p = .004$. RI correlation with functional performance change was significant, self-care change $p < .001$ and mobility $p = .04$. The diagnostic category analysis demonstrated a significant effect of the diagnostic category on LOS, $p < .001$, and functional performance change, only mobility ($p = .007$) was significant.

The purpose of this study was to identify if there is an association between RI and functional performance change using the newest assessment data set put forward under the IMPACT Act. The study attempted to make the linkage between critical domains of occupational therapy intervention, which can set the stage for further investigations of the reform

of both data collection and quality evaluation in PAC. The RI and Self-Care section data correlation was supportive of occupational therapy (OT) involvement in both diagnostic categories. OT intervention by its nature, principles and knowledge base focuses on self-care tasks as part of addressing activities of daily living to enhance quality of life. Our professional future will depend on affirming the connection of the provision of OT and outcomes in functional performance change including self-care intervention for return to home. Research can also be built on the type of study and outcomes derived by Rogers et al. (2016) discussed earlier, where occupational therapy was the only spending category in their hospital-based study that significantly affected hospital readmission rates.

Future research will soon be possible using data set items from the CARE Tool as they become in Medicare-required PAC setting assessments. This data will be available on a national basis and publicly accessible so occupational therapy research must enhance capacity to complete this kind of work. Large database research could reveal robust connections between RI, functional performance improvement, and occupational therapy utilization in particular. In addition, more research is needed to compare the therapy needs of those discharged to the community to the needs of those who continue to reside in LTC facilities.

Implications

Occupational therapy practitioners need to identify the outcome measures the government through Medicare is using in PAC settings and seek to have input on conducting the assessment or screening for those measures at the facility level. This information gathering, or coding of items on the MDS, may be designated to a particular discipline for facility convenience sake leaving occupational therapy out of the process. Further, occupational therapists might prefer to

push the coding of items off to another discipline to decrease workload. However, if the coded measures do not accurately represent the functional performance needs or gains achieved, then the significance of occupational therapy could be diminished if the outcomes do not support the cost of the intervention. The authors believe that accurate coding is best completed by the discipline providing intervention related to the outcome measures. Occupational therapists in a SNF or other PAC setting can under Medicare guidance code not only the self-care measures they can code the mobility measures as well. Occupational therapy addresses functional mobility within interventions related to activities of daily living and instrumental activities of daily living. But practitioners must step up to be involved at this level.

AOTA as an organization and a group of expert members have and continue to work in the pre-legislative, legislative and regulatory implementation process that is required to develop new outcome measures (AOTA, 2015a). Further research with much larger databases available on the Medicare identified outcomes reporting is possible and occupational therapy has an opportunity to participate. But good analysis depends on the input of good data. In addition to promoting research, every individual practitioner in a PAC setting must work both to be involved in recording data and must take responsibility for accurate coding of patient functional changes. Future research as well as the future of occupational therapy as a vibrant profession in these PAC settings will only be successful if researchers can be provided the right analysis of patient needs and outcomes provided by accurate and informed reporting through the involvement and vigilant implementation by practitioners. It starts with understanding at the practitioner level of the importance of involvement in data collection in every PAC setting.

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