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A retrospective comparative analysis of a CMS Nursing Home Compare Five-Star Quality

Measure: Are we improving care?

By

Stephanie L. Perry

A doctoral project submitted to the faculty of the Medical University of South Carolina in
partial fulfillment of the requirements for the degree of
Doctor of Health Administration
In the College of Health Professions

A RETROSPECTIVE COMPARATIVE ANALYSIS OF A CMS NURSING HOME
COMPARE FIVE-STAR QUALITY MEASURE: ARE WE IMPROVING CARE?

By

Stephanie L. Perry

Approved by:

Chair, Project Committee


Jillian Harvey, PhD

4/20/18
Date

Member, Project Committee


Kit Simpson, DrPH

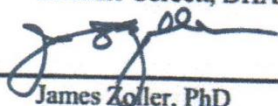
4/20/18
Date

Member, Project Committee


Stefanie Corbett, DHA

4/20/18
Date

Dean, College of Health Professions


James Zoller, PhD

4/20/18
Date

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Medical University of South Carolina
In Partial Fulfillment of the Requirements for the
Degree of Doctor of Health Administration

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Chairperson: Jillian Harvey, PhD, Assistant Professor, Medical University of South Carolina

Committee: Kit Simpson, DrPH, Professor, Medical University of South Carolina
Stefanie Corbett, DHA, Chief Executive Officer, Corbett Healthcare Solutions

This paper is a retrospective analysis of the pre- and post-implementation of a CMS quality measure designed for its Nursing Home Compare Five-Star Quality Rating System. The measure, *Percentage of short-stay residents who have had an outpatient emergency room visit (Medicare claims-based)* introduced in 2016, was added due to the increasing rates of resident transfers to acute-care facilities. The skilled nursing facility's performance outcomes of this measure will determine payment by CMS as part of the new skilled nursing facility value-based purchasing program (SNF VBP), which is set to be implemented in 2019. *Methods:* Information found in the Skilled Nursing Facility records within the Medicare 5% national sample data set comprised the data for the study. Time frames for the applicable data were from January through December of 2015 and January through December 2016. Data was selected for all nursing home residents with a nursing home stay of 30 days or less (short-stay residents). *Results:* A total of 126,098 patients were examined within the dataset, 63,546 discharges were included for 2015 and 62,552 discharges for 2016. A total of 39,275 patients were transferred from a SNF to the

hospital with 20,248 (31.86%) transferred in the pre-quality measure implementation year, and 19,027 (30.42%) in the post quality improvement year. The percent of patients who were transferred to a hospital declined from 31.9% in 2015 to 30.4% in 2016. *Conclusion:* The rate of transfer of short-stay SNF residents was reduced in the post-quality measure implementation year 2016. It is unknown if the reduction in transfers was a direct result of the implementation of the quality measure or due to other causes. Answering this question warrants the need for future research.

I: INTRODUCTION

Background

Almost from our country's inception, we have attempted to address the needs of our most frail and vulnerable citizens. Care for the elderly in the United States, especially the poor elderly, began in the 1600's and consisted of institutions and almshouses (Watson, 2009; "History of Long Term Care," n.d.; Singh, 2010). A few of the American colonies, such as Philadelphia, PA, New York City, and Charleston, South Carolina, were among the first to establish homes for the elderly ("History of Long Term Care," n.d.). Most of these establishments, also called almshouses or poorhouses, simultaneously accommodated the insane and inebriated. However, these homes were often the only remaining sanctuary for which this impoverished population had access ("The History of Nursing Homes," n.d.).

Regulation of these institutions, at least in the beginning, was haphazard, non-standardized, or worse, nonexistent. As a result, this vulnerable populace often suffered at the very hands from whom they sought protection and support. It was not until the 19th century that the industry of caring for the elderly saw its first regulation by the United States federal government. The Social Security Act (SSA), enacted in 1935, provided federal assistance to needy seniors ("Long-Term Care in the U.S.," 2015). Title I of the Social Security Act established a federal and state public assistance program known as Old Age Assistance, or OAA (Institute of Medicine [IOM], 1986). The OAA provided matching federal funds for "state old-age assistance expenditures" ("Social Security Act," n.d., para. 1), including those for nursing home services (IOM, 1986). However, the government stipulated that the SSA and OAA not be

for “anyone living in public institutions (poor houses), thus spawning the creation of the private nursing home industry” (“Long-Term Care in the US,” 2015, para. 2).

An amendment to the Social Security Act in 1950 took payments for long-term care from the beneficiaries and placed them into the hands of the facilities that provided the services. Furthermore, under the OAA, facilities wishing to receive SAA payments were required to be licensed by their state (“Long-Term Care in the U.S.,” 2015).

The federal government began regulating hospitals in 1965 by mandating accreditation by the Joint Commission on Accreditation of Hospitals (Morford, 1988). Regulating long-term care facilities was not so simple. During the next two decades, policy and enforcement went mostly unheeded. It was not until after the Institute of Medicine (IOM) published its recommendations in 1986 for regulating nursing homes that actual legislative change began to take hold. The IOM’s study focused on improving the quality of care for the elderly and frail, and it provided a detailed list of resident rights (Walshe, 2001). Before the IOM’s recommendations, facility enforcement and regulation varied widely from state to state as well as within the states (IOM, 1986).

Ultimately, the creation of Medicare and Medicaid in 1965 as an amendment to the SSA was what changed the landscape of long-term care for the elderly and the poor. Title 18, or Medicare, covered medical care for the elderly in acute care facilities but not post-acute care. Title 19, or Medicaid, covered post-acute care for the poor and the elderly (Singh, 2010), but not care provided in the home, thus “creating a bias in favor of institutional LTC” (“Long-Term Care in the U.S.,” 2015, para. 4). Medicare operates at the federal level, while Medicaid has components at both the federal and state level (Ng, Harrington, & Kitchener, 2010). Today,

Medicare and Medicaid are the primary payers of *institutional* long- and short-term care, (Ng, Harrington, & Kitchener, 2010).

CMS created Nursing Home Compare in 1998, a stand-alone internet website that provided consumers with information about the past performances of Medicare-certified nursing homes, such as staffing mix and health inspection results ("New Quality Measures," 2016; Department of Health & Human Services Office of Inspector General [HHS], 2004). CMS applied quality measures (indicators) to the site in 2003 ("New Quality Measures," 2016; Mara & Olson, 2008). By 2008, CMS implemented the Five-Star Nursing Home Quality Rating System on its Nursing Home Compare website that summarized much of the sites' detailed information, offering consumers an uncomplicated means for making distinctions between nursing homes ("Five Star Changes," 2016). Compliance with quality measures, nurse staffing, and health inspection surveys determines the number of stars awarded to skilled nursing facilities (SNF). A separate star represents the global facility rating. Up until 2015, approximately 80% of the facilities listed on the site had either a four- or five-star rating ("Changes to Nursing Home Compare," 2014). An in-depth evaluation of the rating system performed by Abt Associates uncovered significant changes in the quality measure scores of SNFs between 2009 and 2013. The organization discovered that the number of five-star facilities tripled from 10.1% to 34.8%, and the number of facilities with one star declined from 20.0% to 3.2% ("Changes to Nursing Home Compare," 2014). Furthermore, a report published in the New York Times in 2014, accused nursing homes across the country of learning how to "game the rating system" (Thomas, 2014, para. 19). It was in part because of this disturbing revelation, and because of the newly passed IMPACT Act (Improving Medicare Post-Acute Care Transformation Act of 2014), that CMS recalibrated the way it scored the quality measures and staffing on its website ("Changes to

Nursing Home Compare," 2014; "IMPACT Act," 2015). CMS declared that the modifications to the rating system “raise[d] the standard for nursing facilities and provides meaningful differences among facilities...to benefit the consumers who use the Star Rating System” (“Changes to Nursing Home Compare," 2014, para. 5).

In 2016, CMS added six additional quality measures to the site, four concerning short-stay residents, and two dealing with long-stay residents. One of the new measures concerning long-stay residents and the use of antianxiety/hypnotic medications “is not incorporated into the Five-Star Quality Rating because it has been difficult to determine appropriate nursing home benchmarks for the acceptable use of these medications” (“Five Star Changes," 2016, para. 3). Data obtained from Medicare claims or the comprehensive resident functional status assessment tool known as the Minimum Data Set 3.0 (MDS) comprise the remaining five measures. The five newest quality measures are as follows (“Five Star Changes," 2016):

- Percentage of short-stay residents who have had an outpatient emergency room visit (Medicare claims-based)
- Percentage of short-stay residents who were successfully discharged to the community, and did not die or were readmitted to a hospital or skilled nursing facility within 30 days of discharge (Medicare claims-based)
- Percentage of short-stay residents who were re-hospitalized after SNF admission including observation stays (Medicare claims-based)
- Percentage of short-stay resident who made improvement in physical function and locomotion (MDS data-based)
- Percentage of long-stay residents whose ability to move independently worsened (MDS-based)

The measure selected for examination in this study is the percentage of short-stay residents who have had a Medicare claims-based outpatient emergency room visit. CMS determined that skilled nursing facilities excessively transferring short-stay residents to the emergency department may not be adequately assessing or caring for its residents.

Need for the Study

The number of Americans aged 65 and older is expected to reach 98 million by 2060, a significant increase from the 48 million reported in 2014 (Mather, Jacobsen, & Pollard, 2015). As this population continues to age, they will consume ever-increasing amounts of post-acute healthcare services. Over 1.4 million residents, or 2.6% of the over-65 population and 9.5% of the over-85 population, resided in nursing homes at the end of 2014, many of which were long-term residents ("Nursing Home Data," 2015; United States Government Accountability Office [GAO], 2016). The number of Medicare-certified skilled nursing facilities in the U.S. has risen from 4,405 in 1967 to over 15,000 in 2014 ("Nursing Home Data," 2015; "Number of Certified Nursing Facilities," 2015). However, the number of SNF does not seem to be keeping pace with the growing aging population, and industry growth has remained mostly flat since 2013.

Today, long-term residents do not exclusively use long-term post-acute care. The number of short-stay residents in long-term care facilities is on the rise. The American Health Care Association estimates that 22% of nursing home residents are considered short-stay residents using LTC services for fewer than 100 days in a calendar year (Lieberman, 2016). "In 2014, 1.7 million fee-for-service Medicare beneficiaries received care in 15,000 SNFs, represent[ing] 2.4 million SNF stays" (Yurkofsky, 2016, para. 1). Most of these short-stay residents require the services of a skilled nursing facility while they undergo either physical, occupational, speech, or even pulmonary rehabilitation after surgery or some other acute medical event (Lieberman, 2016).

Medicare Part A covers these services, but only when they are medically necessary. According to CMS, skilled nursing services are those performed by skilled professionals (other than what is used for custodial care) that assist in either improving a condition, maintaining a condition, or preventing or delaying it from deteriorating (Centers for Medicare & Medicaid Services [CMS], 2015). Often, a long-term care facility provides these short-term skilled services.

Because long- and short-stay residents are frequently elderly with multiple comorbidities, inadequate staffing, and undertrained nursing personnel further complicate matters. As a result, nursing homes transfer these residents to an emergency department (ED) when condition changes occur. Nursing home and skilled care residents account for over 2 million ED visits annually (Wang, Shah, Allman, & Kilgore, 2011; Burke, Rooks, Levy, Schwartz, & Ginde, 2015). Often these visits are inappropriate or preventable. The costs associated with transferring residents to the emergency department (ED) is thought to be in the billions of dollars annually (Ouslander & Berenson, 2011; Ouslander, Schnelle, & Han, 2015), and is a significant concern of CMS (Ouslander et al., 2016). The cost of just one preventable transfer of a nursing home resident to an ED usually ranges from \$1,300 to \$3000 per visit (Patel et al., 2016; Hsiao & Hing, 2014).

The reasons for the numerous ED transfers are plentiful. Most nursing homes decide to send residents to the ED for both clinical and non-clinical reasons. Non-clinical reasons include physician availability or preferences, the level of staff training, and staff availability (Department of Health & Human Services Office of Inspector General [HHS], 2013). Some nursing facilities stand to benefit financially by transferring residents to an ED, especially if the resident is admitted to the hospital. Medicare, the primary payor of short-stay post-acute care services, represents considerably more reimbursement dollars than Medicaid provides for long-stay

residential services (Lepore & Leland, 2015; Connole, 2010). When a Medicaid-covered resident is admitted to an acute-care facility for treatment, and then discharged back to the post-acute care facility, the post-acute care facility collects a higher daily rate from Medicare for that resident. This rate is “three to four times the daily rate paid by Medicaid” (Lamb, Tappen, Diaz, Herndon, & Ouslander, 2011; Ouslander & Berenson, 2011, para. 4). For example, “according to the NIC [National Investment Center] Skilled Nursing Data Report, the difference in per diem rates is significant: \$501 for Medicare compared to \$198 for Medicaid and \$247 for Private Pay, as of March 2016” (Lieberman, 2016, para. 2). The result has left policymakers in Washington severely divided about the need to change the current Medicare payment system (Mor, Intrator, Feng, & Grabowski, 2010). Finally, 2019 marks the commencement of SNFs’ participation in the CMS Value-Based Purchasing program (“Value-Based Purchasing,” 2017), further demanding that facilities modify their approaches to and delivery of the care they provide. Hi

Cost of care is not the only reason for potentially preventable transfers from the SNF to the ED. There is an abundance of documentation that shows that residents experience an increase in morbidity, mortality, and significant functional decline when transferred to an ED (Morphet, Innes, Griffiths, Crawford, & Williams, 2015; Trahan, Spiers, & Cummings, 2016; Stephens, Newcomer, Blegen, Miller, & Harrington, 2012; Covinsky et al., 2003; Han et al., 2009; Ouslander, Schnelle, & Han, 2015). SNFs are also admitting higher acuity patients resulting in more resident transfers to emergency rooms. Also, many facilities struggle to provide adequate nurse staffing levels, and the appropriate training necessary to provide safe, quality skilled care for this fragile high-acuity population (HealthStream, 2016). Finally, substandard care caused by inadequate assessment skills of SNF staff also leads to higher numbers of inappropriate or

preventable resident transfers (Department of Health and Human Services Office of Inspector General [HHS], 2014). All of these potentially contribute to higher numbers of resident transfers.

Since the incorporation of the newest addition of quality measures by CMS in 2016, little is known of their effectiveness, or if the quality of care has improved as a result of their implementation. It is believed that a retrospective comparative analysis of the pre- and post-quality measure implementation by CMS provides valuable information about the quality of care provided to short-stay SNF residents. Protecting Access to Medicare Act of 2014 (PAMA) was enacted into law in April of 2014 and “requires public reporting of readmission rates for each SNF on Nursing Home Compare beginning on October 1, 2017” (Riddle, 2015, p. 10.) This information makes this study exceptionally pertinent, as well as “promotes better clinical outcomes for skilled nursing facility patients” (“Value-Based Purchasing,” 2017, para. 3).

Problem Statement

It is unknown what effect the new CMS quality measures have had on performance and quality of care for short-stay residents in skilled nursing facilities in the United States. A national retrospective comparative analysis examining the pre- and post-implementation of these quality measures do not yet exist. The purpose of this study is to determine whether SNFs in the U.S. transferred fewer short-stay residents to EDs after implementation of the quality measure in 2016. Using data provided by the Medicare 5% national sample potentially provides valuable information that can potentially be applied to all SNF’s across the country.

Research Question

Have skilled nursing facilities in the United States transferred fewer short-stay residents to emergency departments after the implementation of the CMS quality measure in 2016?

Population

The population for the study will include short-stay skilled nursing and post-acute care facility residents who experienced a transfer (Medicare claims-based) to an emergency department in the United States during the periods of January to December 2015 and January to December 2016.

II: REVIEW OF THE LITERATURE

Independent and government-sponsored studies were reviewed that related to nursing home resident transfers to a hospital emergency department within the United States. Investigated themes include the reasons why SNF nursing staff transfer residents to EDs, as well as the facility's financial reasons for transferring residents to emergency departments. Another theme explored was the health impact on residents who are transferred from an SNF to an ED. Additionally, health conditions for which the resident was transferred to the hospital that later were considered to be treatable within the nursing facility were examined. Finally, suggested methods for reducing the number of resident transfers to EDs was explored. Most, if not all the literature describes nursing facility transfers to emergency departments from the perspective of the long-stay resident but not the short-stay resident.

Methods

Studies were assembled using a variety of search terms through PubMed, Medline, and Google Scholar. Government and world websites such as the Center for Disease Control and Prevention (CDC), Centers for Medicare & Medicaid Services (CMS), Agency for Healthcare Research and Quality (AHRQ), World Health Organization (WHO) provided an excellent array of literature. Other popular healthcare and medical sites such as CINAHL, EBSCOhost, the Cochrane Library, Trip, and ProQuest also contributed valuable information. Queries concentrated on nursing facility resident transfers to an emergency department, CMS Nursing Home Compare Five-Star Quality Measures, nursing facility quality of care, and effects of transfers on nursing facility residents. Title, abstract and text search terms included "Transferring short-stay residents to emergency department," "Preventable emergency department visits by nursing home residents," "Preventable transfers skilled nursing facility," "Communication in

skilled nursing facilities,” “Financial incentives in transferring nursing home residents to the emergency room,” “Bed-hold procedures in nursing homes,” “Effects on health when transferring nursing home residents between care settings,” “How does transferring residents to ER affect their health,” “Transferring residents between settings,” “How to reduce the number of nursing home resident transfers,” “Reducing avoidable hospital transfers of nursing home residents,” “Reducing unnecessary hospitalizations,” “Programs to reduce avoidable nursing home resident transfers,” “Initiatives to reduce avoidable nursing home resident transfers” and “Factors leading to nursing home resident transfer to emergency room.”

Why Skilled Nursing Facilities Choose to Transfer Residents to the ED

SNFs care for a variety of patients, including those with complex medical issues, altered cognition, and a host of functional impairments. Communication between healthcare professionals within and between care facilities is vital to providing high-quality care for this multifaceted and frail population. In the studies that examined the reasons SNF staff transfer residents to the ED, a common theme emerged. Studies suggest that difficulty communicating with decision-makers and between health care professionals regularly contributes to the decision to transfer (Laging, Ford, Bauer, & Nay, 2015; Trahan et al., 2016; Lamb, Tappen, Diaz, Herndon, & Ouslander, 2011; Kirsebom, 2015; Tsai, Tsai, & Huang, 2016; Robinson et al., 2012; Vasilevskis et al., 2017; King et al., 2013; Shah, Burack, & Boockvar, 2010; Sandvik, Bade, Dunham, & Hendrickson, 2013; Yoo et al., 2015; Pearson & Coburn, 2013; Ashcraft & Owen, 2017; Walsh & Wiener, 2011; Clark et al., 2017). “A major challenge in ensuring continuity of care across health care settings is the effective communication of information between care providers and institutions” (Mansukhani, Bridgeman, Candelario, & Eckert, 2015, para. 4). In a study by Brooks, Warshaw, Hasse & Kues, 68% of residents transferred to an ED

did so only after a brief phone call between SNF staff and the physician (Brooks, Warshaw, Hasse, & Kues, 1994). Furthermore, the absence of comprehensive communication between SNF and ED staff often deleteriously affects resident outcomes after transfer (Robinson et al., 2012; Lamb et al., 2011; Platts-Mills et al., 2012; Pearson & Coburn, 2013; Gillespie, Gleason, Karuza, & Shah, 2010; American Medical Directors Association [AMDA], 2010). “Elderly patients are often transferred to the ED with little documentation of their symptoms, recent treatments, or pertinent medical history” (Kessler, Williams, Moustoukas, & Pappas, 2013, p. 53). King, Shah, Gilmore-Bykovskiy, Toles, Ouslander, Burke, Hustey, and Sandvik also state inadequate or poor communication can originate from either the SNF or from the acute care facility (King et al., 2013; Shah et al., 2010; Gilmore-Bykovskiy, Roberts, King, Kennelty, & Kind, 2016; Toles, Young, & Ouslander, 2012; Ouslander et al., 2016; Burke et al., 2016; Hustey, 2010; Sandvik et al., 2013). When either the acute care facility or the SNF fails to communicate all relevant information, fragmented and incomplete care often results. Frequently, this leads to the resident’s transfer to the ED when unexpected changes in status occur.

Other communication barriers stem from the SNF’s lack of knowledge of the resident’s or family’s wishes concerning ED transfers when condition changes occur. “Family members perceive themselves to play an advocacy role in their resident’s care” (Abrahamson, Bernard, Magnabosco, Nazir, & Unroe, 2016, p. 184; Walsh & Wiener, 2011). In a study examining the root-cause analysis of transfers from SNFs to hospitals, Ouslander and colleagues found that family preferences account for 16% of transfers (Ouslander et al., 2016). Detailed discussions of end-of-life and palliative care should be discussed with the resident and their families before such needs arise in the future (Stephens et al., 2015). Doing so reduces unnecessary and preventable transfers. However, even after prior discussions, family members may insist the

resident be transferred to the ED when status changes occur, despite the belief of SNF staff that the transfer is unnecessary (Ouslander et al., 2016; Stephens et al., 2015; Perry, Cummings, Jacobson, Neuman, & Cubanski, 2010). Frequently, families tend to view any change in resident condition as an emergency or crisis and opt for transfer to an ED for additional evaluation, even if the resident's care is palliative (Stephens et al., 2015; Shanley et al., 2011). Often family members cite they prefer to "err on the side of doing more rather than risk the consequences of doing less when it comes to medical care" for their resident (Perry et al., 2010, p. 2).

Additional reasons for resident transfers outside of poor communication are related to an increasing level of resident acuity and lower nurse-to-resident staffing ratios. Residents are entering SNF with more co-morbidities and higher acuity rates than ever before (Morphet et al., 2015; Mor, 2011; Tyler et al., 2013). SNF staff training, education, and experience are keys to providing care to this complex patient population. Ashcraft, Hullick, Kennedy, McGregor, Caffrey, Morphet, Tyler, Collier, and Walsh suggest that with less education, training, and experience, resident transfers occur more frequently (Ashcraft & Owen, 2017; Ashcraft & Champion, 2012; Hullick et al., 2016; Kennedy, 2005; McGregor et al., 2014; Caffrey, 2010; Morphet et al., 2015; Collier & Harrington, 2008; Harrington et al., 2000; Walsh & Wiener, 2011). Furthermore, higher nurse-to-resident staffing ratios contribute to lower SNF transfer rates and higher quality care, as well as decreased risk of complications and loss of function (Caffrey, 2010; Harrington & Carrillo, 2017; Edelman, 2010; Tyler et al., 2013; Seblega et al., 2010; Maas, Specht, Buckwalter, Gittler, & Bechen, 2008; Harrington et al., 2000; Harrington, 2005; Dwyer, Stoelwinder, Gabbe, & Lowthian, 2015; Walsh & Wiener, 2011; Schnelle et al., 2004; Ball, Murrells, Rafferty, Morrow, & Griffiths, 2013; Mueller, Bowers, Greene Burger, & Cortes, 2016; Dyck, 2007). Additionally, the type of SNF staffing affects resident transfer rates,

such as the number of registered nurses (RNs), licensed practical nurses (LPNs), and certified nursing assistants (CNAs). However, Ganz et al., suggest that there is relatively no effect on hospital transfer rates where SNF staffing rates occurred at the recommended rate except in facilities with “high baseline hospital transfer rates” (Ganz, Simmons, & Schnelle, 2005; Kimmey & Stearns, 2015). Contrary to Ganz et al., Konetzka, Stearns, and Park concluded that not accounting for the endogeneity of staffing “underestimates the benefit from increased RN staffing” (Konetzka, Stearns, & Park, 2008).

Financial Incentives for SNFs to Transfer Residents to the ED

In business, the primary goal is to make a profit. In healthcare, the primary goal is providing safe, efficient, and quality care. However, today’s healthcare *is* business, and often the primary goal is to make a profit, sometimes even at the expense of providing quality care. “The concept of ‘no margin, no mission’ is not only accepted but largely embraced in U.S. health care” (Evans, 2012, p. 22). No more is this true than in long-term and skilled nursing care. Skilled nursing facilities know if a resident covered by Medicaid transfers to the emergency department for further evaluation, there is a good chance they will return requiring higher acuity care and services. Such services demand a higher premium from Medicare (Carter & Porell, 2003; Temkin-Greener, 2011; Mor et al., 2010; Kimmey & Verdier, 2015). “Higher Medicare payments provide an incentive to nursing homes to hospitalize long-stay residents on Medicaid so that they will return to the facility for SNF services that are paid by Medicare” (U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation, and Office of Disability, Aging and Long-Term Care Policy [HHS/ASPE/DALTCP], 2011, p. 11). Furthermore, Medicare and Medicaid have “a narrow interest in limiting its share of costs, and neither program has an incentive to take responsibility for the management or quality of care”

(Grabowski, 2007, para. 4). Therefore, nursing facilities gain the financial incentive to transfer long-stay residents to the ER. “Doing so shifts the costs of more intensive nursing care and ancillary services from the NF [nursing facility] to the hospital, [as well as] requalifies [Medicaid] residents for the higher paying Medicare SNF stay following hospital discharge” (Medicare Payment Advisory Commission [Medpac], 2017, p. 269). Cai et al. observed similar findings in a study examining the association between payer status and the risk of hospitalizations among nursing home residents (Cai, Miller, Nelson, & Mukamel, 2016). They determined a five percent “increase in the likelihood of discretionary hospitalizations” (p. 574) among Medicaid residents than for private pay residents, further supporting the notion “that financial incentives play a role in the higher hospitalization rates” (p. 580). Because of this, SNFs lack the incentive for creating and maintaining quality improvement initiatives for reducing avoidable and unnecessary hospital readmissions (Mileski et al., 2017; Konetzka, 2006). As long as there are disincentives to reduce rehospitalizations and transfers from post-acute facilities to acute care facilities, SNF will continue to consider resident transfers as a source of additional revenue.

“Bed-hold” and “reserved-bed” policies also generate revenue for LTC facilities and is an additional “incentive for transferring nursing home residents to the hospital with the expectation that they will ultimately return to the nursing home” (Desmarais, 2010, p. i). With bed-hold policies in place, SNFs are not as timid to transfer residents to the hospital. Grabowski et al. conducted a regression analysis that yielded a positive relationship between Medicaid’s bed-hold policy and a 1.8 percent increase in Medicare SNF rehospitalizations (Grabowski, Feng, Intrator, & Mor, 2010). Medicaid is the primary driver of bed-hold policies, and different states have different requirements. It is interesting to note that states with “higher Medicaid reimbursement

rates were associated with lower odds of transfer” (Intrator, Schleinitz, Grabowski, & Mor, 2008, p. 33). However, as long as there are different Medicaid bed-hold policies between states, it is likely that SNFs will continue the practices that generate the most favorable bottom line.

Financial gain is an essential motivator to transferring residents to the hospital, especially when doing so leads to additional revenue. However, financial profit is not the only reason for the high hospital transfer rates within this sector of the industry. Occasionally facilities transfer the resident to avoid liability or possible litigation from family members in the event the resident suffers more significant harm or even death by remaining in the facility for treatment (Perry et al., 2010; Stefanacci & Spivack, 2011). The high transfer rates occurring in this sector may not be to increase profits but rather to reduce profit losses from litigations.

Health Impact on Residents Transferred from an SNF to an ED

There is ample literature that identifies the host of adverse outcomes associated with resident transfer from SNF to ED. These acute transfers, whether avoidable or necessary, put this frail elderly population at risk. Such risks include new-onset or worsening cognitive impairment, exposure to iatrogenic events, dehydration, incontinence, new or worsening functional decline, alterations in skin integrity, medical errors, adverse drug reactions, and even increased mortality (Dwyer, Gabbe, Stoelwinder, & Lowthian, 2014; Cai et al., 2016; Ouslander et al., 2009; Toles et al., 2012; Szlejf et al., 2012; Foreman, This, & Anderson, 1993; Shah & Hajjar, 2012; Creditor, 1993; Astiz et al., 2008; Gaitan, 2016; Fernandez, Callahan, Likourezos, & Leipzig, 2008; Binot et al., 2017; Maslow & Ouslander, 2012). According to Gruneir et al., residents transferring from a long-term care facility to an ED is a “serious adverse event” (Gruneir et al., 2012, para. 2). For patients aged 70 to 85, an acute hospitalization often leaves them sicker and more disabled than they were when they entered (Gorman, 2016; Resnick & Gershowitz, 2013).

Often, the elderly patient is at substantial risk for “functional decline due to altered mobility levels” (Kleinpell, Fletcher, & Jennings, 2008, para. 3). Adverse effects of hospitalization such as delirium may be due to adverse drug effects, polypharmacy, malnutrition, or from the disease process itself. However, determining the cause of adverse outcomes from hospitalization on this population is difficult, and often there are several determining factors associated with unfavorable or unintended outcomes. Nevertheless, the risk for adverse medical events should be monitored for in every elderly patient transferred to the ED.

Resident Health Conditions That Lead to Potentially Avoidable Hospitalizations

Long- and short-stay residents are transferred to acute-care facilities for several reasons and conditions. Ambulatory care sensitive diagnoses (ACSD) was developed originally for hospitals as a measure to identify potentially preventable admissions (Longman, Passey, Ewald, Rix, & Morgan, 2015). ACSD conditions are also used to determine inappropriate hospitalizations within the long-term care industry. Inappropriate or potentially avoidable hospitalizations as defined by Spector et al. are “Hospital admissions that follow acute flare-ups of clinical conditions that could have been avoided if appropriate preventive care in the NH had been provided” (Spector, Limcangco, Williams, Rhodes, & Hurd, 2013, p. 673). Fingar et al. define them as “Medical conditions such as asthma, urinary tract infections, and complications of diabetes are considered ambulatory care sensitive conditions, meaning that when those conditions are present, primary or preventive health care can reduce the need for emergency department (ED) visits and inpatient hospitalization” (Fingar, Barrett, Elixhauser, Stocks, & Steiner, 2015, p. 1). In a study performed by Saliba et al., experienced physicians reviewed 100 hospitalizations of nursing home residents in Los Angeles and found that 45% were inappropriate or avoidable (Saliba et al., 2000). Other studies have indicated that the number of

avoidable transfers is as high as 67% (Ouslander et al., 2010). Reducing potentially avoidable hospitalizations helps to improve the quality of care within the SNF and reduce unnecessary expenditures (Ouslander et al., 2010, para. 2). In 2005, Medicare and Medicaid paid \$2.6 billion for potentially preventable hospitalizations of nursing home residents (Walsh & Wiener, 2011). While this number is slowly declining, it remains a substantial percentage of healthcare spending in the US. In part because of the high volume of inappropriate or preventable hospitalizations, CMS will begin its new payment system in 2019. These events are a part of a broader initiative that reimburses for high-quality care provided within SNF settings (Mcandrew, Grabowski, Dangi, & Young, 2016; Center for Medicare & Medicaid Services [CMS], 2017; Kimmey & Verdier, 2015).

Conditions that fall under the ACSD category and considered treatable within the SNF are angina, COPD, cellulitis, dehydration, diabetes mellitus, gastroenteritis, pneumonia, urinary tract infection, seizures, sepsis, psychosis, and adult failure to thrive to name a few (Walsh et al., 2012; Mcandrew et al., 2016; Binot et al., 2017; Fingar et al., 2015, Wyman & Hazzard, 2010). Other conditions, which when detected early or treated within the SNF, can avoid costly hospitalizations. Some of these include CHF, hypo- or hypertension, constipation, anemia, influenza, and antibiotic-resistant organisms (AROs) (Montoya & Mody, 2011; Walsh et al., 2012). The lists of conditions can be extensive. Nevertheless, with additional training of frontline caregivers in treating geriatric health conditions, SNF will be better equipped to deliver quality care to their older patient population.

Methods for Reducing Resident Transfers to EDs

There are several models and tools available that can help reduce the number of patient transfers, as well as improve transitions from one health care setting to another. Older frail adults

often have multiple chronic mental and physical conditions that complicate the transfer between facilities. These conditions “pose a threat to [their] physical and psychological health” (Kada, Janig, Likar, Cernic, & Pinter, 2017, p. 1). The American Medical Directors Association (AMDA) recommend patient-centered care, effective communication, and safety when facilities find they must transfer this vulnerable population from one setting to another (American Medical Directors Association [AMDA], 2010). In response to the frequent lack of or fragmented communication between healthcare settings, specifically from nursing homes to hospitals, several tools were designed to improve the continuity of care between providers and facilities.

INTERACT

INTERventions to Reduce Acute Care Transfers program (INTERACT) was initially developed by Joseph G. Ouslander and Mary Perloe and funded by CMS. It was designed to “improve care in long-term care (LTC) and skilled nursing facilities (SNF), with the goal of reducing preventable hospital readmissions” (Nelson & Pulley, 2015, para. 20). This quality improvement program focuses on “improving the identification, evaluation, and management of acute changes in the condition of nursing home residents,” (Ouslander, Bonner, Herndon, & Shutes, 2014, p. 162) prompting clinicians to intervene before the condition deteriorates and resident transfer becomes necessary. The program is an Internet-based website that provides free tools for home health care, assisted living, and skilled nursing care. The INTERACT toolkits include communication tools, decision support tools, advance care planning tools, and quality improvement tools (Centers for Medicare & Medicaid Services, Administration on Aging [CMS, AoA], n.d.). Transferring residents from the SNF to an acute care facility often results in distress, delirium, depression, polypharmacy, falls, hospital-acquired infections, de-conditioning, unintentional weight loss, and new or worsening frailty (Kleinpell, Fletcher, & Jennings, 2008;

Hogan et al., 2017; Walsh & Bruza, 2007; Creditor, 1993; Marcantonio, 2017; Wellens et al., 2013). INTERACT provides LTC and SNF staff with tools to help them manage specific conditions within the facility, prevent other conditions from becoming severe, and improve advance care planning and palliative care plans (Centers for Medicare & Medicaid Services, Administration on Aging [CMS, AoA], n.d.).

National Transitions of Care Coalition

The National Transitions of Care Coalition (NTOCC) is an Internet-based website that offers tools and information for healthcare professionals as well as patients for improving safety and quality during transfers between healthcare settings, and from a facility to home. The website offers a collection of templates for medication reconciliation, and various checklists (Modified Morisky Scale, continuity/coordination of care, medication assessment), as well as several other supportive tools for patients and their caregivers who reside in the community (National Transitions of Care Coalition, 2008-2017). The organization has several workgroups created to address issues such as education and resources, policy and advocacy, performance measurement frameworks, and health information technology (HIT).

Telemedicine/Telehealth

Telemedicine or telehealth is still in its infancy in the U.S., but this technology is helping some SNF reduce potentially avoidable hospitalizations. “Telemedicine makes real-time medical consultation available to nursing home patients and their families via two-way video conferencing,” (Grabowski & O’Malley, 2014, p. 244) which can potentially prevent costly and unnecessary hospitalizations. A study by Driessen et al. concluded that nursing homes expressed a great deal of conviction that potentially preventable hospitalizations would be reduced if their facilities had access to telemedicine services (Driessen et al., 2017). Furthermore, a pilot study

by Hofmeyer et al. had similar findings in rural LTC facilities (Hofmeyer et al., 2016). A similar project, initiated by Georgia Health Sciences University and the Georgia Partnership for Telehealth, established a telehealth program in 10 rural Georgia SNFs, providing the facilities with direct 24/7 access to emergency department physicians at the Medical College of Georgia Health Medical Center. “Early results suggest the program has meaningfully reduced the need for ED transports” (“Telemedicine Consultations,” 2014, para. 11). Numerous companies offer access to these services, but LTC and skilled nursing facilities are often limited to only those offered by their local hospital network. Medicare currently provides only limited coverage for telehealth services which has impeded wider adoption, but other payers have been quicker to incorporate coverage for this service (American Hospital Association [AHA], 2016). Finally, some of the benefits offered through telehealth are not possible for many nursing facilities. Few nursing home beneficiaries are eligible for using telehealth thereby negating some of the advantages this technology offers (Medpac, 2017).

Nurse Practitioners

Unnecessary “hospitalization can cause an irreversible decline in function for the elderly patient and can expose residents to iatrogenic disease and delirium” (Christian & Baker, 2009, p. 1333). The employment of nurse practitioners (NP) in nursing facilities has been known to be effective in reducing the rates of unnecessary transfers to emergency departments. “In many clinical situations, more nursing home residents with acute changes in their clinical condition could be cared for safely and effectively without having to be transferred to a hospital” (Ouslander & Berenson, 2011, p. 1166). Many NPs have experience as registered nurses, which makes their interdisciplinary approach to care significant in a long-term care setting (Caprio, 2006). NPs provide a variety of services and functions in long-term care and skilled nursing

facilities. Their added expertise and knowledge base provide residents and family members with the confidence that health issues and concerns receive the appropriate care and attention (The Center for Health Workforce Studies, 2014; Rosenfeld, Kobayashi, Barber, & Mezey, 2004; Ploeg et al., 2013; Kimmey & Verdier, 2015). However, NP regulation varies widely from state to state. Oliver et al. (2014) found “a statistically significant relationship between improved overall state health outcomes in states where full practice for NPs is allowed” (Oliver, Pennington, Revelle, & Rantz, 2014, p. 441). A study by Melillo et al. (2015) demonstrated that NPs in LTC settings reduce hospitalizations and emergency department transfers among LTC residents and are therefore a valuable member of the care team.

III: METHODOLOGY

Research Design

The Centers for Medicare & Medicaid Services database provides data for beneficiaries aged 65 years and older, and their encounters with the healthcare system. Information found within the database cover medical interventions, including medications, various procedures, and several types of healthcare services. Medicare does not cover long-term care services, but it does cover short-stay skilled nursing care for up to 100 days within a Medicare-certified long-term care facility. Since the population under examination predominantly uses Medicare insurance for skilled nursing care such as in-patient physical, occupational, and speech rehabilitation, Medicare claims-based data will provide the most relevant and comprehensive information necessary to answer the research question.

The current study uses information found in the Medicare 5% national sample data set. Time frames for the applicable data are from January through December of 2015 and January through December 2016. Data was selected for all nursing home residents with a nursing home stay of 30 days or less. The patient was counted if the variable for discharge destination on the final bill for the nursing home stay indicated a discharge to the hospital (Centers for Medicare & Medicaid Services [CMS], 2017). A retrospective comparative analysis approach was used to compare the results of the pre- and post-quality measure implementation period.

Selection Sample

Subjects for the study included national Medicare beneficiaries and dually eligible beneficiaries admitted to a skilled nursing facility for skilled nursing care as a short-stay resident. Medicare beneficiary data was included if it showed they were admitted within the stated time frames and transferred to an ED within 30 days of admission or readmission to the SNF. The

subjects' SNF admitting diagnosis was also not included as a variable in the study. Other variables not included were the length of hospital stay immediately before the SNF stay, the number of ICU days during the previous hospital stay, or if the beneficiaries were enrolled in Medicare Disability coverage. Reasons cited by SNFs for transfer were also not variables included in the study. Typically, this information is not included in the Medicare database repository. Using this information could potentially confound the outcome data generated from the study. Also confounding the outcome would be the inclusion of the specific length of time within the 30-day window in which the resident was transferred. Having this information does not provide pertinent data relating to the rates of transfer, and therefore has no relevance to the study. Finally, comorbidity index scores were additionally not included in the study since the information it provides has little relevance to the expected outcome.

Data Collection

Data were extracted from the Skilled Nursing Facility records in the Medicare 5% national sample data sets for 2015 and 2016. The following variables were used in this analysis: Month and year of admission, discharge destination (discharged to a hospital), patient age, sex, race, and dual eligibility for Medicare and Medicaid. Only patients admitted to a Medicare-certified skilled nursing facility who had 30 days, or less length of nursing home stay was included in the analysis. Discharged to a hospital was the primary outcome variable and was defined as a dichotomous with a value of 1 if the patient's record indicated a hospital discharge destination code (02, 05, 09, and 43). All other discharge codes were set to a value of 0.

Instrumentation

IBM® SPSS® Version 24 was used to analyze the Medicare 5% national sample data set.

Statistical Analysis

Differences between the years on the primary independent variables were assessed using standard descriptive statistics appropriate for the distributions of the data (t-test, Wilcoxon Rank Sum, and Chi-squared tests.) Statistical significance was defined as $p < .05$.

The hypothesis of differences in discharge to a hospital in year 2016 compared to year 2015 was tested by a binary indicator of year, where year 2016 had a value of 1 and 2015 a value of 0. A multivariable logistic regression model was estimated with Discharge to Hospital as the dependent variable. SNF year 2016 (SNF16) was the leading independent variable and controlling for any seasonal effects by finery indicators for the month of discharge, and patient characteristics: age, sex, race, and dual eligibility status of the individual patient.

Limitations

There are several limitations to this study. First, there is a potential for coding errors in the claims data that could potentially impact results. However, training and quality assurance audits of Medicare claims mitigate this limitation. Second, this study does not take into consideration the severity of the patient at the time of transfer. Additionally, data was not examined that distinguished if the transfer was due to a lack of availability of resources, such as access to a physician, nurse practitioner, laboratory, or imaging services. Finally, this study does not encompass information for transfers of private-pay residents, which do represent a percentage, albeit small, of most SNF census's.

This study did not examine the details surrounding the fewer number of transfers. When comparing the differences in transfers among men and women, this study showed that men had a higher risk of being transferred than their female counterparts. Blacks, Hispanics, and other races were also more likely to be transferred than Whites. It is unknown if the higher transfer rates

among these races are attributable to higher instances of diabetes, heart and cardiovascular disease, or other comorbid conditions. “Cardiometabolic comorbidities are more prevalent in blacks, [as well as] dyslipidemia, hypertension, obesity, insulin resistance, hyperglycemia, chronic kidney disease, and diabetes mellitus” (Graham, 2016, para. 3). We did not control for pre-existing or comorbid conditions in this study. This analysis also demonstrated that dually eligible residents were transferred more often than residents not eligible for Medicaid. This study did not examine nor control for the numerous causes related to the higher number of transfers among this group. Nevertheless, it is widely known that dually eligible beneficiaries “frequently have multiple chronic conditions and more than half have cognitive or mental impairments” (Robert Wood Johnson Foundation, 2012, p. 1). It is also unknown whether the reduction in transfers post-quality measure implementation was the result of skilled nursing facilities employing measures such as INTERACT or telemedicine, or whether it was the result of adding a nurse practitioner to their healthcare team. Furthermore, it is also unknown if additional training of frontline nursing staff, improved communication between nursing staff and physician, or improved communication between the nursing facility and the acute-care facility were directly linked to the lower overall rate of transfer in 2016. Further studies to determine these questions is warranted and encouraged.

Protection of Human Subjects

This study used de-identified data which has been classified as Non-human research by the University Institutional Review Board.

IV: Results

Patient records from Medicare's 5% national sample dataset were examined for the years 2015 and 2016. Specifically, patient information was selected for inclusion if the patient was transferred from a skilled nursing facility to a hospital within 30 days of admission to a SNF, and considered to be a short-stay resident (< 100 days SNF stay).

Overview

A total of 126,098 patients were examined within the dataset, 63,546 discharges were included for 2015 and 62,552 discharges for 2016. A total of 39,275 patients were transferred from a SNF to the hospital with 20,248 (31.86%) transferred in the pre-quality measure implementation year, and 19,027 (30.42%) in the post quality improvement year. The demographics of the population included in the study is shown in Table x below.

Table 1: Demographics of the Medicare patients included in the study.

Variable	Year 2015 N=63,546	Year 2016 N=62,552	Statistic
Mean age (SD)	79.1 (8.4)	77.9 (8.4)	$p < .0001$
Male Sex N (%)	24,952 (39.3)	24,827 (39.7)	$p = 0.1234$
Race N (%)			$p = 0.0744$
White	55,419 (87.2)	54,247 (86.7)	
Black	5,447 (8.6)	5,598 (9.0)	
Other	1,859 (2.9)	1,884 (3.0)	
Hispanic	821 (1.3)	823 (1.3)	
Dual Eligibility N (%)	11,654 (18.3)	10,533 (16.8)	$p < .0001$
Discharged to hospital N (%)	20,248 (31.9)	19,027 (30.4)	$p < .0001$

As shown in Table 1 above, there were fewer Medicare patients in the data set in 2016 than in 2015. However, the percent of patients who were transferred to a hospital declined from

31.9% in 2015 to 30.4% in 2016. There were some statistically significant changes in the composition of patients in 2016 which could account for the decrease in discharges to the hospital in 2016. When compared to 2015, the population in 2016 were younger, and had a statistical trend towards a shift in racial distribution. We tested the effect of these population differences using logistic regression, controlling for patient characteristics as well as for effects of seasonal factors (month of discharge). The results of this analysis are shown in Table 2.

Table 2: Multivariable logistic model predicting discharge from SNF to hospital for year 2016 compare to year 2015, controlling for patient age, sex, race, dual eligibility*.

Variable	Odds Ratio	95% Confidence Interval
Year 2015	Reference	NA
Year 2016	0.949	0.926 - 0.972
White race	Reference	NA
Black race	1.471	1.412 - 1.533
Other race	1.017	0.948 - 1.091
Hispanic race	1.128	1.018 - 1.249
Age	1.008	1.007 - 1.010
Female sex	Reference	
Male sex	1.298	1.266 - 1.330
Not Medicaid eligible	Reference	
Dually eligible	1.804	1.748 - 1.862

*ORs for seasonal effects were only significant for February and March when compared to January and are omitted from the table.

Tables 3 and 4, and Figure 1 shows a comparison of month-to-month in each year. This comparison revealed a near-consistent reduction in the number of transfers during 2016 than in 2015 after implementation of the quality measure.

Table 3: DispHosp = 1 (Discharge to Hospital); Pre-quality measure implementation year 2015

Discharge Month	Discharge to Hospital (%) Controlling for SNF16 = 0		
	0	1	Total
1	67.36	32.64	11.54
2	66.58	33.42	8.06
3	66.63	33.37	8.88
4	68.94	31.06	8.55
5	68.06	31.94	8.33
6	67.52	32.48	7.77
7	69.51	30.49	8.08
8	67.72	32.28	7.65
9	68.28	31.72	7.46
10	69.35	30.65	8.02
11	69.15	30.85	7.64
12	69.01	30.99	8.03

Table 4: DispHosp = 1 (Discharge to Hospital); Post-quality measure implementation year 2016

Discharge Month	Discharge to Hospital (%) Controlling for SNF16 = 1		
	0	1	Total
1	69.85	30.15	10.57
2	68.33	31.67	8.24
3	68.24	31.76	9.17
4	70.43	29.57	8.27
5	70.13	29.87	8.20
6	70.14	29.86	7.97
7	68.82	31.18	7.64
8	68.69	31.31	7.92
9	70.46	29.54	7.86
10	69.96	30.04	7.84
11	70.20	29.80	7.93
12	69.80	30.20	8.39

Discharge to Hospital By Month

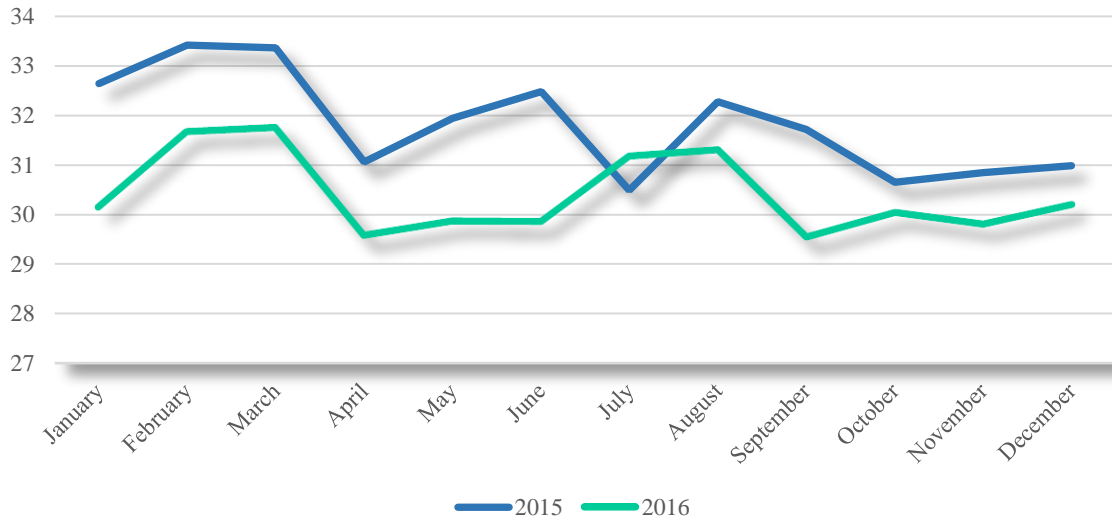


Figure 1

A side-by-side comparison of 2015 and 2016 revealed that SNFs were 5.1 percent (point estimate = 0.949) less likely to transfer short-stay residents to the hospital in 2016 than during the same period in 2015 after controlling for age, sex, race, and dual eligibility (Figure 2).

Pre- and Post-Quality Measure Implementation

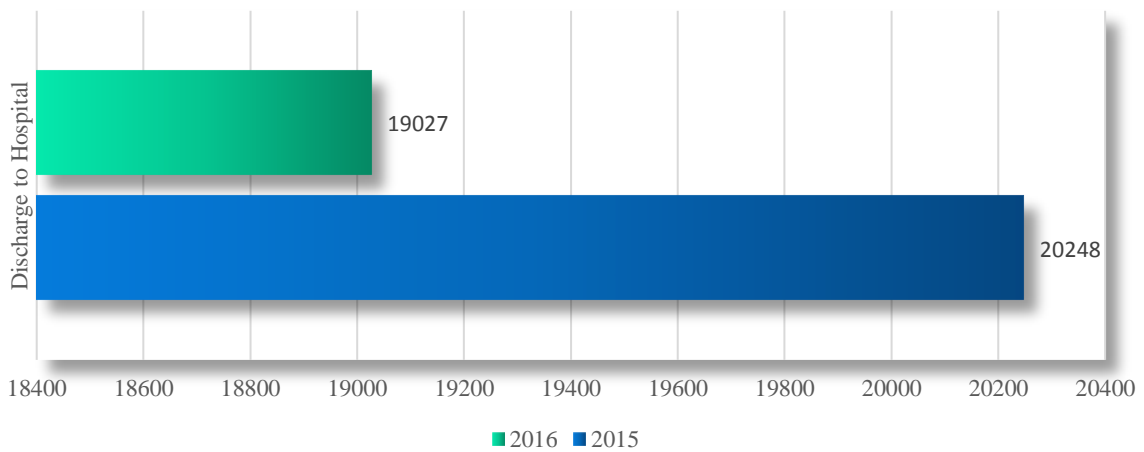


Figure 2

Finally, Figure 3 also demonstrates that fewer residents were transferred to an ED in 2016 than in 2015 when observing the length of stay (LOS) within the SNF before transfer.

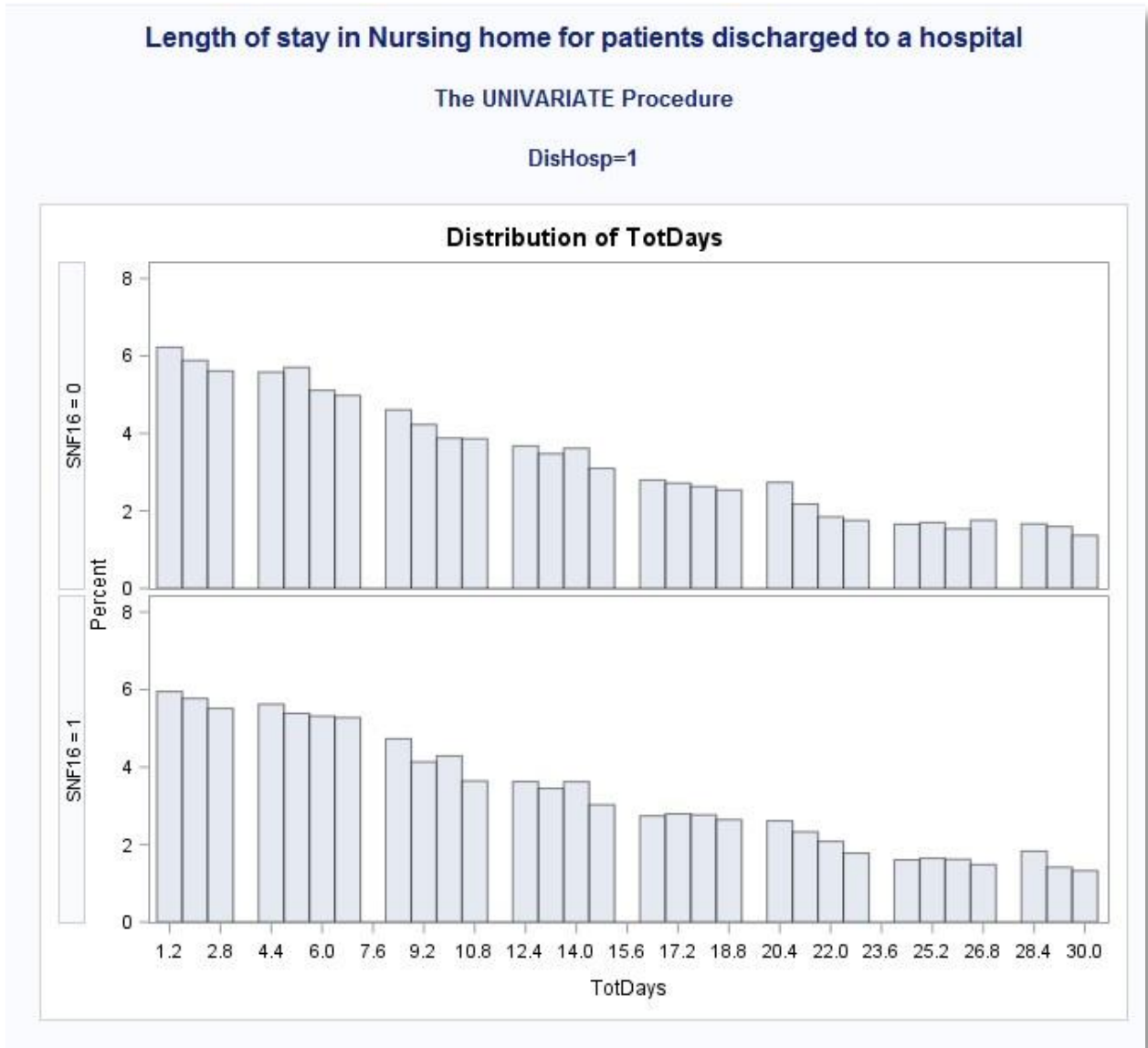


Figure 3

V: Discussion

Short-stay residents are entering SNFs at a growing rate for a host of medical and physical ailments. With the growing aging population, SNFs are beginning to offer many different services to attract this expanding demographic. In the early years of long-term care, nursing homes were known primarily to provide only custodial services to the poor, elderly, and infirm. Today this is changing. The Centers for Medicare & Medicaid Services is also changing in the way it holds these facilities accountable for the services they provide. SNFs are beginning to understand that to avoid the financial penalties imposed by CMS for sub-standard care, as well as avoid potential negative ratings on the Nursing Home Compare website; they must improve their game. After the addition of quality measures to CMSs' Five-Star Quality Rating System, short-stay SNF residents experienced a lower rate of claims-based transfers to the emergency room. Before this study, it was virtually unknown whether skilled nursing facilities reduced the number of transfers of their short-stay residents as a direct result of the quality measure implemented in 2016.

The rates of avoidable transfers are high within the United States and across the world (Kada et al., 2017). The reasons for these transfers vary, but there are similarities among facilities. A lack of or inadequate communication between care providers and between facilities potentiates greater numbers of transfers of residents to acute care facilities. It is also known that a lack of or inadequate training of nursing staff also contributes to higher rates of transfer. At times, families insist that their loved one be transferred to err on the side of caution, even when SNF staff believe that the transfer is unwarranted. Regardless of the reasons for discharging a resident to an acute-care facility, it has been established that residents suffer a host of adverse physical and mental outcomes during and after transfer. It is in the best interest of the resident for

facility staff to recognize early and treat when possible many of the resident's acute condition changes within the nursing facility.

There are several tools available to SNFs which can aid both frontline nursing staff and healthcare providers in lowering their facility's overall transfer rates. INTERACT, NTOCC, the addition of nurse practitioners, and telehealth are just some of the viable solutions SNFs can employ to reduce their numbers of resident transfers. These tools have been shown to be effective at improving the care for both short- and long-stay residents.

When determining a method to improve resident care, SNFs need to consider that CMS publicly reports Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP) data to show how well or poorly SNFs prevent hospital readmissions. The SNF VBP currently reports the SNF 30-day all-cause readmission measure, which will eventually be replaced by the SNF 30-day potentially preventable readmission measure (CMS, 2017). Beginning in fiscal year 2019, SNF reimbursement will be impacted as a result of the new payment program. The program will rank all SNFs based on their performance and reward the top performing SNFs "for their services based on the quality of care, not just quantity of the services they provide in a given performance period" (CMS, 2017, para. 4). To fund the program, 2% of SNFs Medicare payments will be withheld beginning on October 1, 2018. Then, 50-70% of the withholdings will be redistributed back to the top performing SNFs. Low-ranking SNF may be perceived poorly by referral sources and prospective residents, resulting in fewer referrals and admissions (Corbett, 2018). Since occupancy is vital to a SNF's sustainable revenue, "it is especially important that facilities remain competitive in quality measure performance" (Corbett, 2018, p. 146). Finally, "publicly reported performance on SNF VBP QMs is also subject to the scrutiny of recovery auditor contractors (RACs), who have the authority to identify and recoup Medicare payments

for substandard care under the Medicare Modernization Act of 2003” (Corbett, 2018, p. 147).

This program provides strong incentives for facilities to coordinate care and aims to protect patients from adverse events associated with hospital readmissions (Frilling, 2017). A facility’s inability to effectively reduce hospital readmissions has the potential to directly affect a Medicare-certified facility’s bottom line if they elect to ignore the opportunity to improve the care they provide.

Future research should examine the causes of fewer ED transfers of short-stay SNF residents. Was the reduction in resident transfers solely due to the implementation of the quality measure, or was it the result of a combination of factors? For example, is there a significant impact of higher nurse-to-resident ratios, or by employing quality improvement methods such as additional training of frontline nursing staff, or adding a nurse practitioner to the healthcare team? Will a long-term examination of transfer data continue to show a positive trend? Finally, how are SNF transfers of short-stay residents linked to an acute care facility’s attempts to reduce their own numbers of re-admits? The answers to these and other questions deserve the attention of further research.

Conclusion

This study definitively demonstrated that fewer short-stay SNF residents transferred to the hospital in 2016 after the implementation of the quality measure to the Five-Star Quality Rating System. It is hopeful that this was primarily due to overall improved resident care within the nursing facility. This revelation is noteworthy to both the Centers for Medicare & Medicaid Services as much as it is to residents and the public alike. Progress *is* being made. However, we should never waver in our efforts to continue to improve the care provided to both our long-stay nursing home and short-stay skilled nursing facility residents.

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