OBJECTIVES

1. Identify the financial implications of Medicare’s “Hospital Readmission Reduction Program” for healthcare organizations.
2. Identify factors that may contribute to hospital readmissions.
3. Describe the Acute Care Physical Therapist’s role in providing appropriate patient and caregiver education and review best practices in this work environment to decrease avoidable readmissions.
4. Discuss the Acute Care Physical Therapist’s involvement in discharge planning and patient advocacy to decrease hospital readmissions.

DISCLOSURE

The speakers do not present with any conflicts of interest in regards to the content of the presentation and have no relevant financial relationships to disclose.
Reducing Hospital Readmissions: The Acute Care Physical Therapist's Role

Why Do Readmissions Matter?

- Readmissions to the hospital are thought to be a marker for poor quality and inefficient hospital care\(^1\)\(^-\)\(^4\).
- Quality of care in the hospital is not the only factor that may trigger a readmission.

Introduction: Why Do Patients Get Re-admitted to the Hospital?

- Multiple factors contribute to hospital readmissions:
  - Poor communication in the hospital setting
  - Poor discharge planning and discharge summaries from the hospital\(^5\).
  - Lack of access to or a lack of clear transitional care from the hospital\(^6\).
  - Poor patient compliance with recommendations.
  - Inability of the patient to comply with medications
  - Social issues in the patient's home environment
  - Patient economic or financial hardships
  - Polypharmacy, patient adverse drug reactions or a lack of communication with a pharmacy

Cost and Statistics

- 20% of Medicare patients are readmitted within 30 days; approximately 2.6 million seniors annually\(^6\)\(^,\)\(^7\).
- Cost of readmissions is $26 billion annually\(^6\).
- In 2008, Medicare Payment Advisory Committee (MedPAC) reported 30 day readmissions have an annual cost of $17 billion, equivalent to 17% of Medicare payments\(^6\).
- According to MedPAC, 76% of readmissions may be due to poor hospital care\(^9\).
Medicare Readmission Statistics
- 30% of hospital readmissions are within 7 days\textsuperscript{10}
- 34% of patients are readmitted in 90 days; 56% within a year

Patients admitted for a medical diagnosis:
- Have a 30 day readmission rate of 21%  
- 63% are expected to be readmitted or expire within one year

Patients admitted for a surgical diagnosis:
- Have a 30 day readmission rate of 16%  
- 52% are expected to be readmitted or expire within one year \textsuperscript{7,11,12}

Most readmitted patients can be categorized into 19 diagnostic groups\textsuperscript{7,13}

Geographical Differences
- Readmission rates vary greatly across the country and also significantly within states from between 13-23%\textsuperscript{7}

States above 20% include:
- NJ, NY, TX, LA, MA, MI

States below 17% include:
- ID, UT, OR, WA, WI, NM, AK

The Hospital Readmission Reduction Program (HRRP)
- **Time line**
  - 2008- Numbers are confidentially reported to hospitals
  - 2009- Public reporting began\textsuperscript{7,15}
  - 2010- The Patient Protection and Affordable Care Act (ACA) became law. HRRP is Section 3025 of the ACA
  - 2012- Penalties began at a 1% reduction
  - 2014- Penalties increased to 3%\textsuperscript{8,11}
  - 2015- Expanded to include COPD, THA and TKA. Public reporting for CVA and CABG added\textsuperscript{13}
  - 2017- Penalties expanding to CABG\textsuperscript{3,14}
Reducing Hospital Readmissions: The Acute Care Physical Therapist's Role

Financial Penalties of HRRP\textsuperscript{15}
- 2,000+ hospitals across the country affected in 2014
- Currently applies to acute hospitals and home health sector
- Does not currently affect psychiatric, long-term care, veteran hospitals and acute inpatient rehabilitation hospitals
- Only the first readmission is counted in the 30 day period; the clock starts again on day 31
- Readmission does not have to be to the same hospital
- Does not apply to patients in Medicare managed care plans
- Penalties are applied to all Medicare IPPS admissions, in proportion to its rate of excess readmissions

Financial Penalties of HRRP\textsuperscript{14,15}
- The excess readmission ratio is calculated for each of the selected diagnostic groups, over a 3 year reporting period
- If there were fewer than 25 admissions for the diagnostic groups within the 3 year period, the hospital is exempt from penalties
- Ratio Calculation:
  - Defined as readmissions in excess of the national average for that diagnosis
  - If the ratio is above 1.00, then it is considered excessive and the hospital will be penalized in the upcoming fiscal year
- There is a Bi-partisan bill asking CMS for risk adjustments to calculations for hospitals, based on socioeconomic factors

Benefits and Drawbacks of HRRP
- Decreased all cause readmission rates to 17% in 2014
- US Government wants a 20% reduction in readmissions\textsuperscript{11}
- MedPAC believed the program would save $10 billion in 5 years\textsuperscript{9}
- Actual savings:
  - 2013- $280 million
  - 2014-$227 million,
  - 2015- $428 million estimated savings
Benefits and Drawbacks of HRRP

- Only 12-27% are preventable according to some studies.
- Increased readmission rates may mean decreased mortality and good access to care, particularly for patients with CHF and COPD.
- Cost of program implementation may shift resources from safety and quality of care.
- Calculations are not adjusted for factors such as income level, education and race, but are adjusted for age and severity of disease condition.
- Hospital readmission rates may reflect the patient population and community resources, and not just hospital quality.

Diagnostic Groups Targeted

- Targeted groups account for only 10% of total Medicare hospital admissions.
- Pneumonia (PNA), HF, MI targeted since 2012.
- All 3 have a high risk of readmission.
- Most of the readmissions are due to an exacerbation of the primary condition and thought to be preventable.
- TKA, THA and COPD were included in 2014.
- HF, MI, PNA and COPD tend to have a high comorbid relationship.

Readmission Rates

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>Readmission Rates</th>
<th>Reasons for Readmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>27%</td>
<td>HF, PNA, ARF</td>
</tr>
<tr>
<td>PNA</td>
<td>20%</td>
<td>PNA, HF, COPD</td>
</tr>
<tr>
<td>COPD</td>
<td>23%</td>
<td>COPD, PNA, CHF</td>
</tr>
<tr>
<td>Cardiac stent</td>
<td>15%</td>
<td>Stent, Circulatory, CP</td>
</tr>
<tr>
<td>THA/TKA</td>
<td>4-10%</td>
<td>After Care, Implant, PNA, Infection</td>
</tr>
</tbody>
</table>
Reducing Hospital Readmissions: The Acute Care Physical Therapist's Role

Acute MI, HF, PNA$^{17}$

- Retrospective study analyzed common readmission diagnoses from 2007-2009 Medicare claims:
  - Cardiovascular disease: greater than 50% of HF and MI readmissions
  - HF: 20% of MI readmissions and 35% of HF readmissions
  - Recurrent pneumonia: 23% of PNA readmissions
  - Respiratory disease: 38% of PNA readmissions
    - Most readmissions occurred between days 0-14
  - For patients with CHF, readmission occurred later in the 30 day period and PNA earlier in the 30-day period

Acute MI, HF, PNA

- Patients with post-MI depression and anxiety demonstrate:
  - Increased risk of hospital readmission
  - Decreased compliance and management of risk factors$^{18,19}$
- Comorbidity risk factors after Percutaneous Coronary Intervention (PCI)$^{18}$
  - CHF
  - History of CVA or TIA
  - Renal Disease/Acute Renal Failure (ARF)
  - COPD

Total Hip and Total Knee Arthroplasties

- By 2030, an estimated 3 million TKA and 500,000 THA will be performed in US
- Readmission rates for patients with arthroplasties are 4-10%, which has increased significantly in last decade$^{20}$
- Study by Pugley, et al reviewed electronic database of 1 hospital with a 5% readmission rate in 90 days$^{21}$
  - Patients with TKA had higher rates
  - 84.7% were unplanned readmissions
  - Reasons: Joint infection, joint stiffness, wound infection, cardiovascular issues, sepsis
  - Demographic risk factors for patients$^{21}$
    - Being male, of decreased age, unilateral replacement
    - Increased BMI, increased LOS, a history of CA
    - Discharge to inpatient rehab facility or having a bleeding disorder
Flagging High Risk Patients

- Highest readmissions: post-surgical cardiac patients\textsuperscript{7,12,22}
- Studies report CHF and COPD patients are at high risk
- Certain comorbidities: CHF, MI, any CA, end-stage liver disease, ARF\textsuperscript{13}
- Lack of out-patient follow-up within 30 days:
  - Increases readmissions for patients post-surgery\textsuperscript{7,22}
- Prevalence of smoking or drug use
- Study involving 126 hospitals in large metropolitan, found an increase in readmissions in high poverty areas:
  - 84% of patients entered through the ED\textsuperscript{13}
  - Patients living at or below poverty level were 28% more likely to be readmitted\textsuperscript{13,16}

Socioeconomic Factors

- For targeted groups, factors influencing readmissions most were:
  - Number of recent hospitalizations, LOS, ESRD
  - Age, sex, race, receiving SSI/disability had less influence\textsuperscript{7,17}
- Areas with high income inequality had:
  - More hospital/nursing home beds and physicians per 1000 people
  - More hospital admissions and readmissions\textsuperscript{23}
- Patients with MI and PNA had similar mortality rates at all income levels
- Patients with CHF had increased mortality in low inequality states\textsuperscript{23}

Gender, Age, Race and Socioeconomic Risk Factors

- Patients who are:\textsuperscript{13}
  - Male, black, unmarried, have less than a high school diploma or are unemployed are at increased risk
  - Male and older have increased risk in all socioeconomic classes
  - After PCI:
    - Patients who are female and older have increased risk\textsuperscript{17}
Age, Race and Socioeconomic Risk Factors

- Systematic review by Calvillo-King et al analyzed social factors that affected readmission or mortality from 1980-2012:
  - After Community-Acquired PNA:
    - Patients who were older, of non-white race had worse outcomes
    - Patients with lower education, lower income or were unemployed had higher readmissions rates
  - After HF, greatest risk of readmission was for:
    - Patients of older age, lower economic status or patients living in rural areas
    - Patients with lack of social support or were unmarried
    - Patients who engaged in high risk behaviors

Physical Function and Other Risk Factors

- Lack of mobility in patients post joint arthroplasty has been correlated to an increased risk of readmission
- Patients who have experienced a CVA and have decreased physical function have greater hospital readmission rates
- Risk of readmission may be due to:
  - Strength of social network and support system
  - Ability to manage care and follow instructions
  - Adherence to medications and discharge instructions

Physical Therapy Intervention: Patients with CVA

- The Northeast Cerebrovascular Consortium recommends therapy consults for all patients admitted to the hospital with a diagnosis of CVA
- There is variability with therapy utilization in organizations that treat this population
Patients with CVA or Total Joint Arthroplasty (TJA)\textsuperscript{31}

- Physical Therapists consistently treat patients with a diagnosis of TJA or CVA
- Factors associated with PT utilization for patients with CVA:
  - Older age, being on Medicaid or uninsured, having an ED admission
  - Having a LOS over 4 days or being at a medical-school affiliated hospital
- Factors associated with higher intensity of PT:
  - Older age, being on Medicaid/Medicare, having a LOS 4-6 days or experiencing depression
  - Intensity was lower for females and patients with hemorrhagic stroke, renal failure or COPD

Patients with CVA or Joint Arthroplasty\textsuperscript{31}

- Factors associated with PT utilization after arthroplasty:
  - Patients with a longer LOS or treated at a larger hospital/medical-school affiliated hospital
- Factors negatively associated with PT use after TJA:
  - Patients with a revision, hip fracture or THA
  - Patients receiving care at a hospital that used contract PT services
- Factors associated with higher intensity PT services:
  - Older, female or having a longer LOS
  - Hospital characteristics influenced PT referral and intensity of services:
    - Patients in urban hospitals received more services; those in for-profit hospitals received less services

ICU Patients

- 8 million patients admitted to the ICU annually in the United States\textsuperscript{32}
- Patients may be harmed by spending too much time in the ICU\textsuperscript{33}
- Patients admitted to the ICU may experience\textsuperscript{34-37}:
  - Muscle wasting with decreased strength
  - Loss of ADLs
  - Psychological deprivation and cognitive deficits
  - Decreased nutritional status
  - ICU post-hospitalization syndrome: increasing patient susceptibility to rehospitalizations\textsuperscript{17}
Reducing Hospital Readmissions: The Acute Care Physical Therapist's Role

Patients in the ICU

- Retrospective cohort study analyzed data from patients in the ICU
- Primary outcome: Incidence of 30-day readmissions
- Results: 490,000 patients, 79,000 were readmitted
  - Patients more likely to be:
    - Older, have had a longer LOS, more comorbidities, discharged to SNF, on Medicaid, or have metastatic CA
  - Readmission diagnoses included:
    - CHF, pneumonia, sepsis, “complications from care” and cardiac arrhythmias
  - In terms of statistics: No strong associations noted
  - Patients with a LOS of 14 days+ had the highest predictive cumulative index of rehospitalization

Patients in the ICU

- Secondary outcome: Late rehospitalizations
- Results: Over 73,000 patients were rehospitalized
  - Patients with the greatest risk:
    - Had more comorbidities
    - Were more likely to be on mechanical ventilation or have ESRD
    - Over ½ of late rehospitalizations involved ICU admission
  - Limitations of this study: Moderate or weak associations were noted in this study
  - Data could not account for all rehospitalizations; other factors such as patient’s self-efficacy play role in rehospitalizations

How Can Physical Therapists Prevent Readmissions?

- A study by Leppin et al presented a framework that balances the burden of being a patient and the capacity of the patient to carry out what is required
- The model predicts that unless workload and capacity are balanced, the patient will have poor physical outcomes and face a greater chance of readmission
Break/Group Discussion
• Identify some of the most prevalent risk factors in your facility
• Identify strategies that Acute Care Physical Therapists in your facility can use to decrease the chance of patient readmission

Rehab Intensity: CVA
• Retrospective cohort study analyzed the association between the intensity of rehab services for patients and the risk of readmission at 30/90 days post-discharge
• Results: 2/3 of patients received rehab services
• Patients that did not receive rehab services were more likely to:
  • Be younger, Caucasian, male, have private insurance, have fewer comorbidities or be discharged home; have a greater risk of readmission
• High intensity rehab recipients were more likely to be:
  • Black, have Medicaid and have more comorbidities; be discharged to SNF/acute rehab
• Patients: Higher intensity had lower rates at 30 days
• With longer LOS were more likely to be readmitted

Physical Therapy: Improving Mobility
• Patient mobility, as measured by the number of steps per day is a potential marker of hospital readmission
• Therapists mobilize patients to their fullest potential whenever possible
Physical Therapy: Improving Self Care

- Study analyzed older adults with rehospitalizations
- Patients categorized based on ADL impairments ranging from complete independence to dependent
- Results: 15.5% were re-admitted within 30 days
  - Of those readmitted:
    - 18.2% were dependent with 3+ ADLs
    - 14.3% had difficulty with 1+ IADL; 13.5% had no impairment
- Conclusion: Increasing patient’s capacity for self care may prevent readmissions
  - Interventions with multiple components and include more people in the discharge plan may be more successful

Physical Therapy: Communication

- Communication may be oral, written or electronic and occur in formal interdisciplinary team rounds, huddles or discharge rounds
- The APTA: Encourages practices and organizations to develop a process where the primary physical therapist is identified and there is documentation that appropriate “hand off” communication to other health care providers has occurred
  - Physical Therapists are held accountable for the coordination and progression of the plan of care

Discharge Planning

- The goal of discharge planning is to improve patient outcomes while containing costs
- Who is on the discharge planning team?
  - Physicians, nurses, discharge planning coordinators
  - Social workers, case managers, therapy staff and other ancillary staff members
  - Patients, families, caregivers
Discharge Dispositions From Acute Care

- Options include:
  - Acute inpatient rehabilitation or subacute rehabilitation
  - Long term acute care or long term care/skilled nursing facility
  - Home with no services
  - Home with homecare services or outpatient services
  - Home with recommendations for community resources- medical fitness centers, local gym membership

Physical Therapy: Determines Appropriate Discharge Disposition

- PT management in the acute care setting focuses on functional activity
- One of the goals of the physical therapy evaluation and ongoing assessment is to discharge patients to the appropriate level of care
- According to Jette et al, physical therapists focus on four constructs:
  - Patient's abilities
  - Patient's wants and needs
  - Patient's ability to participate in care
  - Patient's life context
- The PT determines the patient's requirements and what is available in his/her given environment

Physical Therapy: Advanced Clinical Reasoning

- Qualitative study of 18 therapists in 3 hospitals
- PTs in the Acute Care setting:
  - Used clinical reasoning and rapid decision making
  - Reported a holistic view of patient care and used specialized knowledge and skills to mobilize patients
  - Reported using critical thinking to determine an appropriate discharge environment for each patient
  - Engaged in constant communication with team members, including the patient and caregivers
  - Determined patient’s prior level of function, home environment and social support prior to recommending best discharge disposition
Physical Therapy: Discharge Planning

- Retrospective study analyzed the frequency that PT discharge recommendations were implemented and the correlation with readmission rates
- Patients were assigned to 3 categories
- Results: PTs discharge recommendations were implemented in 83% of cases
  - Most frequent mismatch reason was patients who did not receive home therapy as recommended
  - Patients were 2.9x more likely to be re-admitted within 30 days if discharge services recommended did not occur
- Conclusion: Therapists accurately determine safe discharge recommendations for patients in acute care

Ideal Discharge Planning

- Clear and timely communication among multidisciplinary team members, patients and caregivers
- Providing clear and concise patient education
- Initiating community services for patients going home
- Setting up outpatient visits prior to discharge
- Reviewing medication safety
- Anticipating patient’s barriers (socioeconomic, physical)

Education Methods

- Verbal education, in patient’s preferred language and in layman’s terminology
- Written education at the lowest reading level possible
- Use technology to enhance education
- Educate patients, families and their caregivers
- Use teach back methods whenever possible
Reducing Hospital Readmissions: The Acute Care Physical Therapist’s Role

Physical Therapy: Patient Advocacy

- Therapists advocate for patients by making recommendations for:
  - Most appropriate next level of care:
    - This may lead to a longer hospital LOS, but reduces the chance of readmission\(^9\)
  - Equipment and supplies for safe discharge:
    - Home oxygen and/or durable medical equipment
    - Homecare services for uninsured or lower income individuals
  - Therapists educate patients on outpatient “compassionate care” or charity programs

Physical Therapy: Educate Staff on Role of PT in the Hospital

- As per APTA recommendations, therapists should:\(^8\)
  - Advocate for their patients
  - Communicate their clinical expertise in providing appropriate recommendations for the next level of care to members of the patient’s health care team
  - Interdisciplinary education and training
  - There is variability among hospitals on discharge guidelines and implementation of services
    - Great opportunities for improvement

Coordinated Care Program in Decreasing Readmissions

- The Community Based Care Transitions Program was implemented through the ACA to:
  - Reduce readmissions, improve quality of care and decrease error during transitions\(^5\)
  - Program began in 2012 and will run for 5 years
  - Uses Community Based Organizations to organize transitional care services to Medicare patients
  - Some of the available programs are: RED, BOOST, MATCH toolkit and the STAAR Initiative\(^51\)
Coordinated Care: Cardiac Rehabilitation (CR)\textsuperscript{52} 
- 1 million PCIs are performed annually in the US
- 2006: CMS began approving cardiac rehab for patients with PCI
- Study looked at patients post-PCI at the Mayo clinic:
  - Before 2006, 25% of patients participated in CR
  - CR associated with 20-30% reduction in mortality for patients with CAD and MI
  - 45-47% decrease in all cause mortality
  - Reduction in mortality after MI, no change in occurrence of MI
- Benefits included: Increased exercise capacity, improved medication adherence, psychological support, reduced depression

Rise of Observation Status: ED
- In 2003, CMS began reimbursing hospitals for patients “on observation” with 3 diagnostic groups:
  - Patients diagnosed with: Chest pain, HF and asthma \textsuperscript{53}
  - A patient is placed on “observation status” when further diagnostic testing or intervention is required prior to patient discharge\textsuperscript{54,55}
  - Patients may be on observation for up to 48 hours
  - The American College of Emergency Physicians determined that ED observation status is “best practice” as it potentially improves health care quality and efficiency\textsuperscript{56}

Role of PT in the Observation Unit\textsuperscript{57}
- Study analyzed PT utilization, patient demographics, patient discharge disposition over a 3 month period
- Leading diagnoses for patients who received PT services: Falls, back pain and dizziness
- APTA Guide practice patterns most prevalent were\textsuperscript{58}
  - 5 A-Primary Prevention/Risk Reduction for Loss of Balance and Falling
  - 4 F-Impaired Joint Mobility, Motor Function, Muscle Performance, Range of Motion, and Reflex Integrity Associated with Spinal Disorders
- Therapy interventions included: Discussions with patients about their social support/home environment
- Results: 69.9% of patients were discharged home
Increase Understanding of Continuum of Care

- Mandatory annual staff education on stroke
- 2 hour lecture for all PT staff on the Stroke Continuum of Care
- Department-specific inservices on:
  - Community resources/cardiopulmonary continuum of care
  - Study reported that phone app can reduce ED visits:
    - App use reduced MI readmissions by 40%
    - 60% of control group was readmitted in 3 months; Rate was 20% in app group
    - A dose-response relationship was noted with lower BP among users who login more

Additional Resources

- “The Value of Physical Therapy in Reducing Avoidable Hospital Readmissions”. Audio Conference Available on the American Physical Therapy Association website. 2 contact hours.
- National Transitions of Care Coalition.
- Patient Education:
  - Your Discharge Planning Checklist: For Patients and their Caregivers Preparing to Leave A Hospital, Nursing Home, or other Care Setting. Centers for Medicare and Medicaid Services.
Summary

• It is important to identify patients who are at high risk for readmissions
• In the acute care setting, patients and health care clinicians believe that physical therapy is useful
• Physical Therapists are an important part of the interdisciplinary team and make recommendations regarding patient disposition
• Physical Therapists can work with their colleagues to reduce preventable hospital readmissions

References

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