Reducing Readmissions

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Before We Begin

- No financial disclosures to report
- I never worked as a hospital administrator

Presentation Outline

- Definitional Terms
- Defining the Scope of the Problem
- Reviewing Financial Penalties and Motivation for Improvement
- Review Proven Successful Strategies and Approaches
- Summary

Definitional Terms

- Hospital Stay - Any type of overnight hospital stay
- Observation Stay - Any extended, non emergency room stay in a hospital that the patient's insurance provider does not recognize as a formal inpatient admission
- Admission - Hospital stay accepted by patient's insurance for inpatient reimbursement
- Readmission - Hospital stay accepted by the patient's insurance as an admission within 30 days after an admission discharge
- Payer = Patient Insurance provider

A Hospital Reappearance Does Not Equate a Readmission

- Post inpatient discharge emergency visits alone usually do not count as readmissions
- Post discharge observation stays usually do not count as readmissions
- Inpatient admissions after a discharged emergency room visit or observation stay do not count as readmissions

Why Do Readmissions Deserve Attention?

- Unplanned readmissions typically represent a failure of the healthcare system
- Patient inconvenience and increases their chance of HAIs or experiencing iatrogenic error
- Depending on a patient's insurance plan, can be costly for the patient
- Often produce a financial penalty and reduced reimbursement for a hospital
- Estimated to Medicare is 17 billion per year alone[1]

Why is there an increased focus on Readmissions in recent years?

- CMS began reporting readmission rates in 2009[2]
- In 2012, it launched the Hospital Readmissions Reduction Program through The Affordable Care Act focusing on 3 diagnoses[3] :
  - Acute MI
  - Heart Failure
  - Pneumonia
  - Later added COPD and Knee Replacements
- The financial penalty increased over time and landed at 3% of the base reimbursement rate[3]

Further Financial Considerations

- Many private insurers followed CMS to institute their own readmission penalties[4]
- Other private insurers operate in managed care environment where any hospital stay can consume a significant amount of the operating budget
- Most hospitals operate at a 1 to 5% margin[5]

The Effect Of Financial Penalties

- Reduction in readmission rate[6,7]
- Increased Mortality?
  - A few studies have shown increased mortality[7]
  - Most studies have shown no link[8]

Causes of Ineffective Care Transitions[9]

- Breakdowns in Communication
- Patient Education
- Accountability

Why Do Readmissions Happen?

- Complex problem of the healthcare system, not a hospital alone
- Contributory factors:
  - Hospital Quality of Care
  - Outpatient Provider Quality of Care
  - Nursing Home/LTAC Quality of Care
  - Personal Patient Barriers to Care: Language, Transportation, Financial, Cognitive and Support for ADLs and iADLs
- Eliminating readmissions completely is likely impossible

Readmissions Characteristics

- Most Hospital Readmission rates are between 10 and 25% for most hospitals[10]
  - These rates have been improving in recent years, due to financial pressure and increased innovation for improvement
- Typically 90% are unplanned[11]
- Studies estimate that approximately 25% to 75% of readmissions are preventable[11,12]

What are Causes of a Preventable Readmission?[12,13]

- Premature discharge
- Ignoring the goals of care for patients with serious illnesses
- Failure to communicate important information to outpatient providers
- Failure to Provide Discharged Patients with Appropriate Education and Guidance
- Premature Emergency Room Decision Making

Early vs Late Readmissions[14]

- 7 day readmissions (early) are more often associated with preventable errors than 30 day admissions (late)
- Early readmissions are more often associated with errors stemming from inpatient management at or before discharge:
  - Medication management
  - Communication Errors
  - Lack of appropriate arrangement of follow up

Most Frequent Medical Conditions Associated with Readmissions[15]

- Myocardial Infarction
- Pneumonia
- COPD Exacerbation
- Cardiac Arrhythmias
- Sepsis

An Approach to Reducing Readmissions

- Use a QI approach: DMAIC, Model for Improvement, etc
- Identify successful strategies implementable in your organization
- Implement on at risk patient populations for greatest effect and standardize if possible

At Risk Populations[16,17,18]

- Frequent Healthcare Users
- Patients with Socio-Economic Barriers
  - Uninsured, Transportation Barriers, Overall Financially Strained
- Patients without a robust Support System, unable to complete ADLs or IADLs
- Language Barriers
- High Disease Burden
  - Takes Six or More Medications
- Discharged on weekend or holiday

Research Supported Strategies to Reduce Admissions

Inpatient: Effectively Staff Nurses and Ancillary Providers[19,20]

- Effectively staffing nurses during the discharge transition has shown to reduce readmissions
- Nurse staffing is also connected with inpatient mortality

Inpatient: Assess and Address Patient Comprehension and Need for Ancillary Support

- Address language barriers
- Address cognitive deficits and review the discharge process with a patient's caregiver if possible

Inpatient: Empathy Training[21,22]

- Studies on the importance of empathy in reducing readmissions alone are mixed
- Patients with high levels of anxiety are more likely to readmit later
- Empathy encourages two-way communication between staff and the patient and may reduce anxiety throughout the discharge process

Inpatient: Self Management Education Strategies Before Discharge

- Have shown readmission reduction rates as much as 30%[23,24]
- Often focus on medication management and symptom monitoring, can be administered on a computer for patients able to complete on their own
- Dependent on patient adherence and effectiveness can vary wildly based on the patient population

Other Inpatient Interventions

- Embedding specialized trained Nurse Practitioners, Case Managers, and even volunteers during the discharge period[25]
- Standardized discharge packet administered by trained planners and pharmacists[26]
- Standardized protocol for communication with outpatient providers, post hospitalization SNFs and LTACHs
- Ensure documentation is completed in a timely manner

Outpatient: Ensure Rapid Follow Up

- Follow up with PCP or specialist within 7 days[27,28]
- Post hospitalization phone call[29]
  - Multiple Studies have shows a significant reduction in readmissions with follow up phone call targeting at risk patients
- Address transportation barriers for follow up if possible

Outpatient: Home Monitoring[30,31]

- Remote monitoring using biomarkers or technology
- Biomarkers are often obtained by homecare nursing or outpatient lab draws
- Technological answers include use of implantable cardiac devices and telephone communicated weigh, blood pressure, pulse oximetry, heart rate, etc
- Largely dependent on patient compliance

Other Outpatient Interventions

- Mandatory home visits with PCP or nurses to improve follow up[32]
- Nurse-driven protocolized outreach program involving phone calls and case management[33]
- Risk based home intervention with both nursing and pharmacists[34]
- Standardize communication between ER and former inpatient providers on hospital reappearance

Inpatient and Outpatient: Transitional Care Interventions and Navigator Teams[35]

- Repeatedly show reductions in 30 day readmissions
- Usually consist of trained navigators, nurses, pharmacists or other ancillary care providers
  - Coach and educate patients on the discharge process
  - Medication management and verification
  - Communication with primary care and specialist teams
  - Post discharge phone call within 3 days and repeated monitoring symptom management

State Action on Avoidable Rehospitaliztions (STAAR), and Hospital to Home (H2H)[36]

- STAAR was a mutli-State Program Active from 2009 to 2013 including Hospitals in MA, MI, and WA
- H2H was a national effort from 2009 to 2012
- STARR encouraged collaboration across organizational boundaries
- Both focused on medication management, patient education, and early follow up.

The Commonwealth Fund Analysis of these Studies[36]

- Studied data from 478 hospitals participating in these studies and found
- Findings: Discharging patients with follow up appointments made was the only single measure that had a significant reduction in risk standardized readmission rates
- However, hospitals that participated in 3 or more activities had significantly greater reductions in risk standardized readmission rates

Cooperation with Payers' Incentive Programs

- Insurance providers may provide their own post hospitalization navigators or nursing access to prevent hospitalizations
- Ensure ease of access for incentive programs

Research Validated Toolkits to Start Improvement Available at AHRQ

- Project RED (Re-Engineered Discharge)[26]
  - Mostly Inpatient Toolkit designed at Boston University that focusing on arranging follow up, educating the patient, and performing a post hospitalization phone call within 3 days
- Project Boost (Better Outcomes by Optimizing Safe Transitions)[37]
  - Mostly Inpatient Toolkit as above with the addition of standardized PCP communication

Summary of Approach to Reduce Readmissions

- Use a standardized QI approach
- Identify patient population most at risk for readmission and target them
- Identify MULTIPLE effective strategies implementable in your healthsystem
- Ensure rapid follow up
- Collaborate and communicate with local healthcare organizations as much as possible
  - Post Hospitalization Skilled Nursing facilities/Rehabs
  - Home Health Organizations
  - Pharmacies
  - Other Health Systems

Overall Summary

Readmissions are a major cause of financial strain for both patients and hospitals and represent poor quality of care

A significant proportion of readmissions are preventable

Significant reductions in readmission rates can be achieved using standardized toolkits and low cost interventions

Ensuring rapid follow up is probably the single most effective intervention to implement, but research suggests implementing multiple strategies simultaneously will achieve the most success

References

- Kauffman, Bill, et al. "Readmissions & Medicare: What's the Cost?" National Investment Center, 23 Mar. 2016, www.nic.org/blog/readmissions-medicare-whats-the-cost/.
- Axon, R. N., & Williams, M. V. (2011). Hospital readmission as an accountability measure. Jama, 305(5), 504-505.
- Desai, N. R., Ross, J. S., Kwon, J. Y., Herrin, J., Dharmarajan, K., Bernheim, S. M., ... & Horwitz, L. I. (2016). Association between hospital penalty status under the hospital readmission reduction program and readmission rates for target and nontarget conditions. *Jama*, *316*(24), 2647-2656.
- Chen, C., Scheffler, G., & Chandra, A. (2014). Readmission penalties and health insurance expansions: a dispatch from Massachusetts. *Journal of hospital medicine*, *9*(11), 681-687.
- Epané, J. P., Weech-Maldonado, R., Hearld, L., Menachemi, N., Sen, B., O'Connor, S., & Ramamonjiarivelo, Z. (2019). Hospitals' use of hospitalists: Implications for financial performance. *Health care management review*, *44*(1), 10-18.
- Fonarow, G. C., Konstam, M. A., & Yancy, C. W. (2017). The hospital readmission reduction program is associated with fewer readmissions, more deaths: time to reconsider.
- Wadhera, R. K., Maddox, K. E. J., Wasfy, J. H., Haneuse, S., Shen, C., & Yeh, R. W. (2018). Association of the Hospital Readmissions Reduction Program with mortality among Medicare beneficiaries hospitalized for heart failure, acute myocardial infarction, and pneumonia. *Jama*, *320*(24), 2542-2552.
- Dharmarajan, K., Wang, Y., Lin, Z., Normand, S. L. T., Ross, J. S., Horwitz, L. I., ... & Krumholz, H. M. (2017). Association of changing hospital readmission rates with mortality rates after hospital discharge. *Jama*, *318*(3), 270-278.
- Transitions of Care: The need for a more effective approach to continuing patient care. (n.d.). Retrieved from https://www.jointcommission.org/-/media/deprecated-unorganized/imported-assets/tjc/system-folders/topics-library/hot_topics_transitions_of_carepdf.pdf?db=web&hash=CEFB254D5EC36E4FFE30ABB20A5550E0
- Elixhauser, A., & Steiner, C. (2006). Readmissions to US hospitals by diagnosis, 2010: statistical brief# 153. *Healthcare Cost and Utilization Project (HCUP) Statistical Briefs. Rockville (MD)*.

References

- Graboyes, E. M., Liou, T. N., Kallogjeri, D., Nussenbaum, B., & Diaz, J. A. (2013). Risk factors for unplanned hospital readmission in otolaryngology patients. *Otolaryngology--Head and Neck Surgery*, *149*(4), 562-571.
- Auerbach, A. D., Kripalani, S., Vasilevskis, E. E., Sehgal, N., Lindenauer, P. K., Metlay, J. P., ... & Williams, M. V. (2016). Preventability and causes of readmissions in a national cohort of general medicine patients. *JAMA internal medicine*, *176*(4), 484-493.
- Vest, J. R., Gamm, L. D., Oxford, B. A., Gonzalez, M. I., & Slawson, K. M. (2010). Determinants of preventable readmissions in the United States: a systematic review. *Implementation Science*, *5*(1), 88.
- Graham, K. L., Dike, O., Doctoroff, L., Jupiter, M., Vanka, A., Davis, R. B., & Marcantonio, E. R. (2017). Preventability of early vs. late readmissions in an academic medical center. *PloS one*, *12*(6).
- Elixhauser, A., & Steiner, C. (2006). Readmissions to US hospitals by diagnosis, 2010: statistical brief# 153. *Healthcare Cost and Utilization Project (HCUP) Statistical Briefs. Rockville (MD)*.
- Gruneir, A., Dhalla, I. A., van Walraven, C., Fischer, H. D., Camacho, X., Rochon, P. A., & Anderson, G. M. (2011). Unplanned readmissions after hospital discharge among patients identified as being at high risk for readmission using a validated predictive algorithm. *Open Medicine*, *5*(2), e104.
- Metzger, J. (2012). Preventing hospital readmissions: The first test case for continuity of care. *Global Institute for Emerging Healthcare Practices*, *12*.
- Kansagara, D., Englander, H., Salanitro, A., Kagen, D., Theobald, C., Freeman, M., & Kripalani, S. (2011). Risk prediction models for hospital readmission: a systematic review. *Jama*, *306*(15), 1688-1698.
- McHugh, M. D., Berez, J., & Small, D. S. (2013). Hospitals with higher nurse staffing had lower odds of readmissions penalties than hospitals with lower staffing. *Health Affairs*, *32*(10), 1740-1747.
- Tubbs-Cooley, H. L., Cimiotti, J. P., Silber, J. H., Sloane, D. M., & Aiken, L. H. (2013). An observational study of nurse staffing ratios and hospital readmission among children admitted for common conditions. *BMJ Qual Saf*, *22*(9), 735-742.
- Thompson, C., Barforoshi, S., Kell, C., & Banerjee, D. (2016). Uncovering the patient experience: empathy mapping promotes patient-centered care for improved heart failure patient outcomes. *Journal of Cardiac Failure*, *22*(8), S87-S88.

References

- Filippo, R., NeSmith, E., Stark, N., Joshua, T., & Hoehn, M. (2015). Reduction of 30-day preventable pediatric readmission rates with postdischarge phone calls utilizing a patient-and family-centered care approach. *Journal of Pediatric Health Care*, *29*(6), 492-500.
- Ditewig, J. B., Blok, H., Havers, J., & van Veenendaal, H. (2010). Effectiveness of self-management interventions on mortality, hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure: a systematic review. *Patient education and counseling*, *78*(3), 297-315.
- Jovicic, A., Holroyd-Leduc, J. M., & Straus, S. E. (2006). Effects of self-management intervention on health outcomes of patients with heart failure: a systematic review of randomized controlled trials. *BMC cardiovascular disorders*, *6*(1), 43.
- Fitzgerald, J. F., Smith, D. M., Martin, D. K., Freedman, J. A., & Katz, B. P. (1994). A case manager intervention to reduce readmissions. *Archives of internal medicine*, *154*(15), 1721-1729.
- Berkowitz, R. E., Fang, Z., Helfand, B. K., Jones, R. N., Schreiber, R., & Paasche-Orlow, M. K. (2013). Project ReEngineered Discharge (RED) lowers hospital readmissions of patients discharged from a skilled nursing facility. *Journal of the American Medical Directors Association*, *14*(10), 736-740.
- Brooke, Benjamin S., et al. "Early primary care provider follow-up and readmission after high-risk surgery." *JAMA surgery* 149.8 (2014): 821-828.
- Misky, G. J., Wald, H. L., & Coleman, E. A. (2010). Post-hospitalization transitions: Examining the effects of timing of primary care provider follow-up. *Journal of Hospital Medicine*, *5*(7), 392-397.
- Melton, L. D., Foreman, C., Scott, E., McGinnis, M., & Cousins, M. (2012). Prioritized post-discharge telephonic outreach reduces hospital readmissions for select high-risk patients. *The American journal of managed care*, *18*(12), 838-844.
- Woodend, A. K., Sherrard, H., Fraser, M., Stuewe, L., Cheung, T., & Struthers, C. (2008). Telehome monitoring in patients with cardiac disease who are at high risk of readmission. *Heart & lung*, *37*(1), 36-45.
- Oster, M. E., Ehrlich, A., King, E., Petit, C. J., Clabby, M., Smith, S., ... & Beekman III, R. H. (2015). Association of interstage home monitoring with mortality, readmissions, and weight gain: a multicenter study from the National Pediatric Cardiology Quality Improvement Collaborative. *Circulation*, *132*(6), 502-508.

References

- Wong, F. K. Y., Chow, S., Chung, L., Chang, K., Chan, T., Lee, W. M., & Lee, R. (2008). Can home visits help reduce hospital readmissions? Randomized controlled trial. *Journal of advanced nursing*, *62*(5), 585-595.
- Lasater, M. (1996). The effect of a nurse-managed CHF clinic on patient readmission and length of stay. *Home Healthcare Nurse*, *14*(5), 351-356.
- Ni, W., Colayco, D., Hashimoto, J., Komoto, K., Gowda, C., Wearda, B., & McCombs, J. (2017). Impact of a pharmacy-based transitional care program on hospital readmissions. *The American journal of managed care*, *23*(3), 170-176.
- Di Palo, K. E., Patel, K., Assafin, M., & Piña, I. L. (2017). Implementation of a patient navigator program to reduce 30-day heart failure readmission rate. *Progress in cardiovascular diseases*, *60*(2), 259-266.
- National Campaigns to Reduce Readmissions: What Have We Learned? (n.d.). Retrieved from https://www.commonwealthfund.org/blog/2015/national-campaigns-reduce-readmissions-what-have-we-learned
- Hansen, L. O., Greenwald, J. L., Budnitz, T., Howell, E., Halasyamani, L., Maynard, G., ... & Williams, M. V. (2013). Project BOOST: effectiveness of a multihospital effort to reduce rehospitalization. *Journal of hospital medicine*, *8*(8), 421-427.