

THE IMPACT OF SOCIAL DETERMINANTS  
OF HEALTH ON HOSPITAL  
READMISSIONS

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## ABSTRACT

The current fragmented delivery of health care has contributed to unplanned hospital readmissions as a leading problem in the United States. Reducing readmissions to urban teaching hospitals is difficult. Many patients living in urban communities face social, economic, language, and transportation barriers to maintaining their health. Both the patient and the medical center experience the burden of readmission and are challenged with addressing SDoH and social injustices at several levels. Medicare views hospital readmissions as a marker representing lower quality of health care delivery to penalize hospitals providing care to the poor. This thesis addresses multiple social and economic factors associated with hospital readmissions, explores the interrelated components of readmissions at the personal and hospital system level, and delves into the interactions of bioethical principles associated with urban living. Hospital readmissions remain a serious issue nationwide and in order to reduce the rates of re-hospitalization the social and economic inequalities contributing to hospital readmissions are significant and must be addressed.

## TABLE OF CONTENTS

ABSTRACT.....	ii
CHAPTER 1: INTRODUCTION.....	1
Social Determinants of Health and Bioethical Implications.....	2
CHAPTER 2: READMISSIONS AND SOCIAL DETERMINANTS OF HEALTH .....	5
Medication Difficulties.....	6
Race and Ethnicity .....	7
Education and Health Literacy.....	10
Health Insurance: Medicare and Medicaid .....	11
Social Support Network.....	13
Poverty and Socioeconomic Status.....	15
CHAPTER 3: POST-HOSPITALIZATION FOLLOW UP CARE.....	17
CHAPTER 4: DISCUSSION.....	19
CONCLUSION.....	21
BIBLIOGRAPHY.....	22

## CHAPTER 1: INTRODUCTION

The current fragmented delivery of health care has contributed to unplanned hospital readmissions as a leading problem in the United States. A wave of initiatives to prevent readmissions and research into the causes of readmissions were set into motion by the Affordable Care Act. Preventable readmissions for Medicare patients alone accounts for over \$17 billion in health care costs and hospitals are facing penalties for high readmission rates for the diagnoses of heart failure (HF), acute myocardial infarction (AMI), and pneumonia (PNA) (RWJF, 2013). In addition, the Centers for Medicare and Medicaid Services (CMS) has decided to add Total Knee Arthroplasty (TKA) and Total Hip Arthroplasty (THA) to the list of diagnosis for which hospitals will be penalized if patients are readmitted within 30 days of discharge (CMS, 2014).

Medicare views hospital readmissions as a marker representing lower quality of health care delivery to penalize hospitals providing care to the poor. Certainly inpatient medical and surgical care, in addition to the discharge process, contribute to hospital readmissions. However, when patients are sent back to home environments consisting of destitute poverty, racism, and lack of social support and opportunity, they are exposed to a plethora of social determinants of health (SDoH) that have a significant impact on re-hospitalization. As such, re-hospitalization may not provide an accurate perception of the quality of care being delivered. Instead it points to the social injustices faced by both vulnerable patients and the hospitals serving these communities.

Reducing readmissions to urban teaching hospitals is difficult. Many patients served by urban teaching hospitals face social, economic, language, and transportation barriers to maintaining their health. Both the patient and the medical center experience the burden of readmission and are challenged with addressing SDoH and social injustices at several levels. SDoH will be explored in-depth as markers influencing readmissions. This thesis will address multiple social and economic factors associated with hospital readmissions, explore the interrelated components of readmissions at the personal and hospital system level, and delve the interactions of bioethical principles associated with urban living.

### Social Determinants of Health and Bioethical Implications

Hospital readmissions are representative of the injustices in our societies and are influenced by a myriad of social conditions. In this respect, hospital readmissions become a bioethical issue to identify and address the social injustices in our health care system. Medical ethics consists of four main principles: autonomy, nonmaleficence, beneficence, and justice (McCormick, 2013).

Autonomy in the field of Bioethics represents the respect devoted to people's informed and voluntary decisions (McCormick, 2013). For autonomy to be present, a person must have the capacity to make the best possible decision. Those living in low-income and poverty-stricken communities are affected in their capacity to exercise autonomy as they are negatively impacted by SDoH and are at risk for readmission. Education is one SDOH contributing to capacity for autonomy to be exercised. The systemic effects of those living in poor communities may come in the form of lack of education and low graduation rates. A lack of a formal education can negatively influence

health behaviors and health literacy. For example, if a person does not complete high school or go to college due to low income, lack of resources, or low graduation rates, then they are less likely to know about the effects of smoking and a poor diet on health. This lack of valuable information and education affects health literacy and can lead to poorer health outcomes (Cutler & Lleras-Muney, 2007). Under-educated community members may never even realize the potentially negative magnitude of their day to day decisions on their health based on misinformation, myths, or unhealthy practices. As Paulo Freire wrote, “Any situation in which some men prevent others from engaging in the process of inquiry is one of violence...to alienate men from their own decision-making is to change them into objects” (Freire, 2000, p.73).

Poverty can affect a person’s ability to exercise autonomy. For example, a patient diagnosed with diabetes may be instructed by his physician to walk outside as a form of exercise. When the patient does not feel safe walking in his own neighborhood, he does not have full autonomy over his health, and safety becomes a direct barrier to his health. Patients are challenged with facing and overcoming the SDoH that affect their health and risk of hospital readmission.

The principle of beneficence signifies the duty to protect and provide the best possible care to patients, while the concept of nonmaleficence implies not harming others (McCormick, 2013). Beneficence and nonmaleficence should ideally become associated with SDoH. Health care providers need to make sure that all pertinent social factors are addressed for each patient being cared for. In order to deliver the best possible care to the most vulnerable and poor patients, it is fundamental to assess the impact of SDoH on each patient’s health status. Health care providers should work with the support of

ancillary staff and collaborate with other professionals so that the social determinants involved may be addressed and health outcomes improved.

Justice constitutes the equal distribution of resources (McCormick, 2013). This principle becomes intertwined with social inequities and the need for the fair distribution of resources based on specific SDoH contributing to re-hospitalization. Patients with low access to resources and significant SDoH, comprise the most vulnerable members of our society. As such, they deserve the commitment of society, health care providers, and of health care systems to help them maintain an optimal health status. Vulnerable patients should be offered assistance to empower them in managing their health care needs. And they must be prioritized in our efforts to reduce health disparities while in turn, hospital readmissions.

Hospitals and health care systems that serve poor and disenfranchised populations are targeted by the penalties imposed by the CMS (Blum et al., 2014). Addressing SDoH affecting vulnerable populations are currently outside of the hospitals' capabilities and the CMS penalty system should be adjusted to take into consideration the social and economic factors affecting the communities served by the penalized hospitals. This injustice only serves to perpetually overburden a health care system that is already challenged with the provision of care to a marginalized community.

## CHAPTER 2: READMISSIONS AND SOCIAL DETERMINANTS OF HEALTH

Patients are predisposed to being readmitted to the hospital even before they are discharged because of the social conditions and environment in which they live. Rather than focusing solely on the quality of inpatient care as a predictor of hospital readmissions, addressing outpatient care coupled with specific SDoH may to help determine the success of future interventions to reduce hospitalizations.

Various SDoH and factors outside of the hospitals' control contribute to hospital readmissions. Researchers in California, found a significant association between people living in 'high-poverty' areas and increased hospital readmissions. The authors reported that "adherence to discharge recommendations via medication or medical supply affordability, lack of reliable transportation to appointments, crowded or unsanitary housing, and health literacy affecting adherence to post-discharge instructions" (p.1240) are some of the challenges that patients who live in poverty face habitually in their efforts to stay healthy (Gohil et al., 2015). Thus efforts to reduce readmissions should start by focusing on the specific SDoH contributing to patients' diseases during the admission process, rather than the current focus of recovery after being discharged. Assessments incorporating comprehensive reasons for readmission, inclusive of SDoH, are valuable in addressing those factors. By examining social factors and their effects on hospital readmissions, future studies will be able to focus on aiming hospital efforts around caring for vulnerable populations, who are often surrounded by unfavorable SDoH (Nagasako, Reidhead, Waterman, & Dunagan, 2014). These factors are so significant that they directly contribute to the patient's return to the hospital. Rubin, Donnell-Jackson,

Jhingan, Golden, & Paranjape reported that for patients diagnosed with diabetes, readmissions may be attributed to multi-level reasons such as SDoH and health system failure contributing to poor self management (2014). These factors are important in contributing to health outcomes, including their effect on re-hospitalization.

#### Medication Difficulties

Patients with comorbidities tend to be placed on multiple medications in an effort to control disease progression and to prevent future complications. As many patients take multiple medications, the schedule for taking medications becomes more complex, and there emerges more opportunities for medication nonadherence; especially among those who are most disadvantaged in society. Medication management and nonadherence themselves are a reflection of the SDoH that patients face on a habitual basis.

Researchers found that patients who are nonadherent are more likely to become readmitted for PNA when compared with those who adhered with their medication regimen (Calvillo–King et al., 2012). A similar study with patients admitted for myocardial infarction (MI) reinforced the importance of medication adherence resulting in a lower 6-month re-hospitalization rate (Zhang, Kaplan, Baik, Chang, & Lave, 2014). These studies support the sequelae of nonadherence and its contribution to re-hospitalization but they do not explore or explain why patients are not adhering to their medications.

Patients diagnosed with diabetes who had difficulties both acquiring and taking their medications were more likely to be readmitted (Rubin et al., 2014). Patients need to be able to adequately take their medications in order to stay healthy, however, some patients may not have the financial security to afford their medications. This inability to

acquire medication can complicate or exacerbate the progression of disease with the potential for a hospital readmission. Cloonan, Wood, & Riley (2013) found an association between those patients who have low health literacy and their ability to manage medications and interpret medication labels. Patients who do not have an adequate level of health education and/or are not educated in the management of their diseases are less likely to be adherent with their medications. Medication adherence plays an important role on re-hospitalization rates. Hospitals and providers must take into account what factors are affecting their patients' nonadherence in order to improve health outcomes.

#### Race and Ethnicity

Racial and ethnic inequalities are continually present in society. These inequalities, ranging from overt racism to structural racism can potentially affect every aspect of a person's life, including health. Racism is a potential mechanism by which minorities are predisposed to be at risk for higher rates of re-hospitalization.

Lukachko, Hatzenbuehler, & Keyes describe racism as taking "many forms, ranging from interpersonal interactions to institutional/structural conditions and practices" (2014, p. 1). Paradies et al. reaffirms the power of structural racism as, "organized systems within societies that cause avoidable and unfair inequalities in power, resources, capacities and opportunities across racial or ethnic groups" (2013, p. 2). Krieger explores the mechanism by which racism can affect health, "economic and social deprivation; excess exposure to toxins, hazards, and pathogens; social trauma; health-harming responses to discrimination; targeted marketing of harmful commodities;

inadequate medical care; and...ecosystem degradation and alienation from the land” (2012, p. 937).

Disparities and experiences of racism have been found to have negative impacts on health outcomes (Cozier et al., 2014; Paradies et al., 2013). For example, Lukachko et al., found that “Blacks living in states with high levels of structural racism were more likely to report having a myocardial infarction when compared to Blacks living in low-structural racism states” (2014, p. 1). Racism can present itself as a range of disparities and difficulties that minority patients have to confront and, as such may become a contributing factor associated with higher rates of hospital readmissions for Black patients (Hu, Gonsahn, & Nerenz 2014; Joynt, Orav, & Jha, 2011).

Vivo et al. (2014) found that Blacks and Hispanics had higher rates of readmissions compared to Whites. The reason behind why minorities had more readmissions than Whites is likely to be multifactorial. It is most likely a symptom of the inequalities present in low-income, urban, diverse communities and thus a result of decades of neglect and structural racism.

Researchers found that Black Medicare beneficiaries were more likely to be readmitted for AMI, HF, and PNA when compared to Whites after an initial hospitalization (McHugh, Carthon, & Kang, 2010). The same study also found that Hispanics were more likely to be readmitted for AMI when compared to Whites. To further support findings, Damiani et al., (2015) found that there is an increased risk of readmission for Hispanics and Blacks who were admitted for HF and AMI compared to White patients. In addition, a study on THA found that Blacks had higher rates of readmissions than Whites (Oronce, Shao, & Shi, 2015). Research supports the

unbalanced hospital readmissions with regard to race and ethnicity for all of the diagnoses for which the CMS penalizes hospitals which will result in financial penalties to hospitals serving minority populations.

To further explore the discrepancy in readmissions between white and minority patients, researchers found a fractured primary care system contributing to these inequalities (McHugh et al., 2010). Lack of coordination between the inpatient and outpatient worlds is likely to be one of the multiple factors contributing to readmissions. Efforts to decrease readmission must include coordinated care between the inpatient and outpatient teams to ensure that patients receive adequate follow up once they leave the hospital. While hospital and primary care coordination is important, providers need to consider the complete effect of their patients' SDoH on their health otherwise there is an increasing of hospital readmission.

A more significant factor contributing to the readmissions of minority groups is more likely to be found in their everyday lives. Researchers argued that Blacks and Hispanics are more likely to be living in hardship and thus in a chronic state of stress. This constant level of stress in turn would lead to a higher frequency of unhealthy behaviors, while unhealthy behaviors provide a major contribution to health inequities. Due to this innate stress, investigators in Connecticut exploring hospital readmissions found that Hispanics were 30% more likely to be readmitted for HF and Blacks 20% more likely to be readmitted for chest pain than Whites (Aseltine, Yan, Gruss, Wagner, & Katz, 2015).

Based on the studies previously mentioned, health disparities due to race and ethnicity are known to be present for patients admitted for AMI, HF, and PNA.

Disparities present in the health care system affect patients regardless of what sickness or medical condition brought them originally to the hospital. More recent research reveals that there is a predilection for readmissions with other diagnoses as well.

A study exploring readmissions post-delivery found that Black and Hispanic patients are more likely to be readmitted than Whites (Aseltine, Yan, Fleischman, Katz, & Defrancesco, 2015). This study is unique in reporting how disparities in readmissions not only affect medical admissions but also affect other departments within hospitals in which delivery of care might be different.

The effects of the inequities in health that Blacks and Hispanics face are general and not limited to one aspect of patient care but are in turn part of an overall ‘sickness’ that the health delivery system endures. The factors behind these disparities must be more closely examined so as to end the serious effect of multi-level health disparities and hospital readmissions, and for the CMS to evaluate how its financial penalty programs are targeting hospitals serving minority patients groups.

#### Education and Health Literacy

Education plays a significant role on people’s health and their ability to self-manage diseases after discharge (Cloonan et al., 2013). Education and health literacy have a protective effect from being readmitted to the hospital (Nagasako et al., 2014). For patients diagnosed with PNA, there is an increased risk of readmission in patients with lower education (Calvillo–King et al., 2012). Cloonan et al., found that people with a lower level of health literacy were less likely to have a good understanding of their chronic condition and be less capable of managing their chronic disease (2013). If patients are not able to manage their diseases, patients can be predisposed to be

readmitted into the inpatient setting. Mitchell, Sadikova, Jack, & Paasche-Orlow discovered that patients with low health literacy were more likely to be readmitted to the hospital or visit the emergency department within 30 days of discharge (2012).

Health disparities associated with education level are complicated or enhanced when other SDoH are also present. Adding educational and health literacy components to a comprehensive plan of care is important to prevent readmissions.

Patients diagnosed with diabetes and who also have a lower education level have an increase risk of hospital readmissions (Rubin et al., 2014). Authors suggest that “poor health literacy may be of particular importance given that diabetes requires more engagement by patients than many other chronic conditions” (Rubin, 2015, p. 4). Patients who have low health literacy may not take their insulin correctly and are likely to be readmitted for complications of insulin mismanagement (Rubin et al., 2014). The same principles of health literacy and lower education levels and risk of readmission could be extrapolated to many other diagnoses. Education plays a clear role in the health outcomes and hospital readmissions.

#### Health Insurance: Medicare & Medicaid

Since the passing of the Affordable Care Act (ACA), a mandate has been established for United States residents to obtain health insurance or else face a significant fee. The purpose of implementing this mandate is to ensure that previously uninsured individuals will gain access to high quality health care. The expected outcome of enacting the ACA law points to a resulting reduction in health inequities. However, complications arise as not all health insurances provide the same affordability and accessibility to health care. The study by Gohil et al. found that patients who are non-commercially insured are

more likely to be readmitted (2015). This points not simply to being insured but also to the benefits of the insurance package provided.

When examining the impact of the type of health insurance on readmissions, a recent study from Connecticut found that patients who were insured with Medicare or Medicaid were more likely to be readmitted than patients who were covered with a private insurance for the chest pain and HF (Aseltine et al., 2015b). Oronce et al., also found that Medicaid or Medicare enrollees had higher 30-day hospital readmissions for THA (2015). These two articles also report that it may be significantly harder for Medicare and Medicaid patients to have access to specialty care services which may help to prevent readmissions. Historically, Medicare or Medicaid have not appropriately reimbursed physicians for the provision of care compared with private insurers (Cunningham & Nichols, 2005; Shen & Zuckerman, 2005). As a result, some hospitals may have a smaller percentage of Medicare/Medicaid beneficiaries in their payer mix. As a result of this multi-level process, patients face additional barriers to their care and may eventually return to the hospital.

For people to qualify for Medicare, they must be over 65 years old, have End-stage-renal disease, or be disabled ("How do I determine my medicare eligibility?", 2016). To qualify for Medicaid, most people must be eighteen years or younger or be low income ("Eligibility", 2016). These two populations covered by government insurance face tremendous barriers inherently because of the eligibility criteria to receive these insurances. Using health insurance as a marker for readmission may be a confounding factor as insurance packages are associated with socioeconomic levels. Generally, those with a higher premium insurance reflect a higher socioeconomic status compared to those

who have government issued insurance. Additionally, the patients that qualify for Medicare/Medicaid can be considered a “high risk” group for readmission and thus deserve more assistance. Future studies will be needed to further explore the relationship between health insurance and the factors contributing directly and indirectly to hospital readmissions.

### Social Support Network

Social network represents the social structure that people have within and outside of their communities. This social support can help patients maintain good health and live healthy lifestyles. Social support includes religion and spirituality, family, friends as well communities, and social service organizations. These structures provide not only emotional and psychosocial support but also assistance in everyday activities that can help ensure an individual’s wellbeing.

Social support is the additional structure that potentially protects patients from hospital readmissions. Lindenauer et al., describes how the assistance provided by a partner may increase a patient’s ability to manage his/her own care more effectively thereby decreasing the risk of readmission. This support can include follow-up care, adherence to complex medication regimens, or following discharge instructions. Additionally, a lack of social support may be due to poverty or low-income inequality (2013).

Lack of two social network variable, marital status and contact with family members, have been found to contribute to both higher mortality and increased hospital readmissions for those who have had an MI (Rodríguez-Artalejo et al., 2006). Additionally, another study investigating the Veteran’s Association population found that

patients who were not married were more likely to be readmitted compared to married patients (Moore, Gao, & Shulan, 2013). The authors concluded that providing more support for those patients who are not married could be a crucial step in order to reduce hospital readmissions.

Damiani et al., (2015) found that people who were widowed, unmarried, or without a partner were at an increased risk of being readmitted for HF and AMI. This could be due to the lack of support otherwise provided by a significant care giver in the patient's life. Patients who live alone are less likely have this additional protective factor. After patients are discharged from the hospital, they still require a prolonged period of recovery as many are not fully healed. It is during this crucial time where having a partner to act as a care-giver can help the patient with the healing process and potentially prevent a hospital readmission.

Studies have found an association between patients with depression and decreased social networks as risk factors for worsening HF and potential hospital readmissions (Chung, Lennie, Dekker, Wu, & Moser, 2011; Friedmann et al., 2006). It is interesting to consider the additive effects of these two risk factors working together to affect the outcomes of different disease processes. Social isolation can therefore be used as a significant predictor of mortality due to HF (Murberg & Bru, 2001).

Social support plays a key role in patients' welfare and health outcomes. In order to bridge the gap in disparities due to the effect of social network, hospitals and providers need to work to identify and provide additional support to those patients without an identified social support structure. As lack of social support is a contributing factor of

hospital readmissions, hospitals and health care systems need a process to both assess and address this SDoH.

### Poverty & Socioeconomic status

Poverty negatively affects health outcomes. Several studies have found an association between living in poor communities, low-income, and socioeconomic status and hospital readmissions (Oronce et al., 2015; Nagasako et al., 2014; Philbin, Dec, Jenkins, & Disalvo, 2001). Multiple markers can be used to identify poverty and its broad effects such as unemployment, low income level, or frequent relocation.

Rubin et al., found that patients with diabetes who were unemployed and had a lower income were more likely to be re-hospitalized within 30 days of discharge (2015). The results of this study were additionally confirmed by Calvillo-King et al., who found that low-income and unemployed patients who were hospitalized for PNA had an increased risk of readmission. Additionally, patients who did not have an elevator in their apartment building and ‘frequently [felt] cold at home’ had an increased mortality due to HF (2012). This unveils the effects of poverty and limited financial resources not only in the context of readmissions, but even further to make associations of mortality and poverty.

Unemployment is not the only economic factor affecting readmissions. Patients who are very poor, unskilled or semi-skilled workers, or who did not own a home were more likely to be re-hospitalized within 60 days of discharge (Weissman, Stein, & Epstein, 1994). When patients do not have the financial capabilities to remain healthy, they are forced to access hospital care, as it is the only place that will take care of them when they are ill. With regards to income inequality, the study by Lindenauer et al. found

that patients with PNA, MI, or HF who were exposed to higher levels of income inequality were more likely to be readmitted within 30 days of discharge (2013). Income inequality can affect the affordability of medications and food and lead to poorer health outcomes. These patients need additional support to maintain their health. Patients who are low-income and experience food insecurity are more likely to be readmitted to the hospital. Research states that “adequate and sustained support for home and community-based services, such as home-delivered meals services, and other programs to help chronic disease burdened older adults in meeting basic needs may be critical in reducing potentially avoidable inpatient hospital admissions” (Sattler, Stein, & Epstein, 2015, p. 239).

Patients who have been displaced due to poverty are more likely to be readmitted to the hospital (Blum et al., 2014). Poverty, reflected as housing instability, can negatively affect patients’ health outcomes. Hu et al. report that high poverty and low household income contributes to patients having more readmissions. The authors also added that “living in a poor neighborhood makes it more difficult to access community resources and primary or post-discharge care services” (2014, p. 783).

Poverty, and all SDoH, can be considered comorbidities. Providers must address health care holistically in order to highlight the poisonous consequences of poverty affecting vulnerable patients. Without a comprehensive approach, poverty becomes a systemic disease.

## CHAPTER 3: POST-HOSPITALIZATION FOLLOW UP CARE

There has been increasing pressure by hospitals and insurers on providers to make sure that patients receive adequate follow up care after being discharged from an inpatient facility. At these follow-up visits, patients are monitored and adjustments can be made to treatment regimens to maintain and improve the overall health of the patient. Failure of the health care system, including the discharge process and post-discharge follow-up can contribute to hospital readmissions (Rubin et al., 2014).

One study conducted with an underserved, urban population at Yale-New Haven Hospital found that patients experienced readmissions due to fragmented primary care services after discharge (Long, Genao, & Horwitz, 2013). There are limitations in connecting patients to their appropriate primary care follow up appointment related due to patient-specific SDoH. These have the potential to affect whether or not a patient achieves continuity after being discharged from the hospital.

For patients to minimize their risk of readmissions, it is important for them to comply with their outpatient follow up visits. A study by Jencks, Williams, & Coleman, discovered that 50.1 % of people who were re-hospitalized had not been billed for an outpatient visit after discharge within 30 days reflecting that a follow-up visit was not made or completed. For patients diagnosed with HF, 52% of those readmitted were not billed for an outpatient appointment (2009). These findings are further supported by Blum et al. who discovered that missed clinic visits and excessive emergency department use are associated with increased 30-day re-hospitalization (2014). These two studies support that patients who do not follow up with their outpatient appointments are more

likely to be readmitted when compared to those patients who comply with their post-discharge outpatient visits.

Damiani et al., found that limited access to post-discharge care, poorer outpatient follow-up, and limited use of preventive services for Blacks and Hispanics contribute to hospital readmissions. This study underscored that these two minority populations are less likely to use preventative services (2015). By using less preventative services, minority groups are further predisposed to hospital readmissions.

Rubin found that patients who lack financial resources, encounter transportation difficulties, and face health insurance issues may have a more difficult time keeping their outpatient appointments after being discharged from the hospital (2015). This helps support the link between the effects of SDoH as the contributory mechanism to readmissions.

## CHAPTER 4: DISCUSSION

A wave of initiatives to prevent readmissions and research into the causes of readmissions were set into motion by the Affordable Care Act. One initiative, the Hospital Readmission Reduction Program in the Affordable Care Act, penalizes hospitals with ‘excess’ readmissions and are subject to up to 3% reduction of reimbursement creating the impetus to improve coordination of services (CMS, 2014).

Other strategies have provided little to no improvement in the number of hospital readmissions reflecting a ‘silo’ approach to the problem. A study of 599 largely urban hospitals found five key strategies associated with decreased readmission rates: 1) partnering with community physicians or physician groups, 2) partnering with local hospitals, 3) having nurses take responsibility for medication reconciliation, 4) arranging follow-up appointments prior to discharge, 5) having a process in place to send all discharge papers or electronic summaries directly to patient’s PCP, and 5) assigning staff to follow up on test results that return after patient is discharged (Commonwealth Fund, 2013). This model, although inclusive of many systems of health care, does not take into account SDoH. The current system leaves patients who experience SDoH vulnerable to readmissions due to challenges of recovery, medication adherence, stress, misunderstanding of discharge instructions and follow-up, and general uncoordinated care. Both the patient and the medical center experience the burden of readmission. Reducing readmissions in underserved, urban communities presents difficulties, as many patients may not have access to social or economic resources to help them maintain their health.

Researchers addressed whether “hospitals should be held accountable for the effects of factors such as poverty, illiteracy, lack of proficiency in English, or lack of social support” (p. 784) on hospital readmissions (Hu et al., 2014). Most readmissions occur in minority-serving hospitals compared to non-minority serving hospitals (Joynt et al., 2011). Therefore, the penalties implemented by the CMS target hospitals which treat the most marginalized and underserved communities (Blum et al., 2014; McIlvennan, Eapen, & Allen, 2015). The financial constraint of these penalties lead these hospitals to have less funds to care for vulnerable populations. Instead of providing these hospitals additional funds that are desperately needed, the government is turning away from vulnerable populations by suggesting that they meet the readmission levels of hospitals that serve higher socioeconomic patient populations. This obvious mismatch is one that must be addressed at the provider, hospital, and policy levels.

It is crucial for hospitals and health systems to address the SDoH and social injustices faced by their patient populations. While it is important to reduce hospital readmissions, CMS guideline may be more deleterious for the most vulnerable members of our society. The CMS must be aware to consider exemption of financial penalties for hospitals serving vulnerable communities.

## CONCLUSION

This paper focused on addressing multiple social and economic factors associated with hospital readmissions. To combat increasing hospital readmissions, insurers are currently forcing hospitals to deliver a higher quality of care or otherwise face a financial penalty. These penalties target hospitals serving minority and poor communities, which are vulnerable and afflicted by SDoH, which increase hospital readmissions. By placing an additional financial constraint on these hospitals, the CMS financial penalties burden both the hospitals and the communities they serve. Health disparities in hospital readmissions account for not only substantial costs but also affect the personal and community lives of all the minority patients it impacts. In order for health care providers to be the most efficacious in improving outcomes, they need to be acutely aware of the situations and environments that patients live in and the SDoH that surround them. Hospital readmissions remain a serious issue nationwide and if hospitals want to reduce the rates of re-hospitalization, the social and economic inequalities contributing to hospital readmissions are significant and must be addressed.

## BIBLIOGRAPHY

- Aseltine, R. H., Yan, J., Fleischman, S., Katz, M., & Defrancesco, M. (2015). Racial and Ethnic Disparities in Hospital Readmissions After Delivery. *Obstetrics & Gynecology*, 126(5), 1040-1047.
- Aseltine, R. H., Yan, J., Gruss, C. B., Wagner, C., & Katz, M. (2015). Connecticut Hospital Readmissions Related to Chest Pain and Heart Failure: Differences by Race, Ethnicity, and Payer. *Connecticut Medicine*, 79(2), 69-76.
- Blum, A. B., Egorova, N. N., Sosunov, E. A., Gelijns, A. C., Dupree, E., Moskowitz, A. J., . . . Keyhani, S. (2014). Impact of Socioeconomic Status Measures on Hospital Profiling in New York City. *Circulation: Cardiovascular Quality and Outcomes*, 7(3), 391-397.
- Calvillo–King, L., Arnold, D., Eubank, K. J., Lo, M., Yunyongying, P., Stieglitz, H., & Halm, E. A. (2012). Impact of Social Factors on Risk of Readmission or Mortality in Pneumonia and Heart Failure: Systematic Review. *Journal of General Internal Medicine*, 28(2), 269-282.
- Chung, M. L., Lennie, T. A., Dekker, R. L., Wu, J., & Moser, D. K. (2011). Depressive symptoms and poor social support have a synergistic effect on event-free survival in patients with heart failure. *Heart & Lung: The Journal of Acute and Critical Care*, 40(6), 492-501.
- Cloonan, P., Wood, J., & Riley, J. B. (2013). Reducing 30-Day Readmissions. *The Journal of Nursing Administration*, 43(7/8), 382-387.
- CMS. (2014). Readmissions reduction program. Retrieved from: <http://cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html/>
- Commonwealth Fund. (2013). Hospital strategies associated with 30-day Readmission rates for patients with heart failure. Retrieved from: <http://www.commonwealthfund.org/publications/in-the-literature/2013/jul/hospital-strategies-associated-with-30-day-readmission-rates>

- Cozier, Y. C., Yu, J., Coogan, P. F., Bethea, T. N., Rosenberg, L., & Palmer, J. R. (2014). Racism, Segregation, and Risk of Obesity in the Black Women's Health Study. *American Journal of Epidemiology*, 179(7), 875-883.
- Cunningham, P. J., & Nichols, L. M. (2005). The Effects of Medicaid Reimbursement on the Access to Care of Medicaid Enrollees: A Community Perspective. *Medical Care Research and Review*, 62(6), 676-696.
- Cutler, D., & Lleras-Muney, A. (2007). Education and Health. Retrieved April 06, 2016, from [http://www.npc.umich.edu/publications/policy\\_briefs/brief9/](http://www.npc.umich.edu/publications/policy_briefs/brief9/)
- Damiani, G., Salvatori, E., Silvestrini, G., Ivanova, I., Bojovic, L., Iodice, L., & Ricciardi, W. (2015). Influence of socioeconomic factors on hospital readmissions for heart failure and acute myocardial infarction in patients 65 years and older: Evidence from a systematic review. *Clinical Interventions in Aging*, 237.
- Eligibility. (n.d.). Retrieved from <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/eligibility/eligibility.html>
- Freire, P. (2000). *Pedagogy of the oppressed*. New York: Continuum.
- Friedmann, E., Thomas, S. A., Liu, F., Morton, P. G., Chapa, D., & Gottlieb, S. S. (2006). Relationship of depression, anxiety, and social isolation to chronic heart failure outpatient mortality. *American Heart Journal*, 152(5).
- Gohil, S. K., Datta, R., Cao, C., Phelan, M. J., Nguyen, V., Rowther, A. A., & Huang, S. S. (2015). Impact of Hospital Population Case-Mix, Including Poverty, on Hospital All-Cause and Infection-Related 30-Day Readmission Rates. *Clinical Infectious Diseases*, 61(8), 1235-1243.
- How do I determine my medicare eligibility? (n.d.). Retrieved from <https://medicare.oneexchange.com/medicare/medicare-eligibility>
- Hu, J., Gonsahn, M. D., & Nerenz, D. R. (2014). Socioeconomic Status And Readmissions: Evidence From An Urban Teaching Hospital. *Health Affairs*, 33(5), 778-785.
- Jencks, S. F., Williams, M. V., & Coleman, E. A. (2009). Rehospitalizations among Patients in the Medicare Fee-for-Service Program. *New England Journal of Medicine*, 360(14), 1418-1428.
- Joynt, K. E., Orav, J., & Jha, A. K. (2011). Thirty-Day Readmission Rates for Medicare Beneficiaries by Race and Site of Care. *Journal of the American Medical Association*, 305(7), 675.

- Krieger, N. (2012). Methods for the Scientific Study of Discrimination and Health: An Ecosocial Approach. *American Journal of Public Health*, 102(5), 936-944.
- Lindenauer, P. K., Lagu, T., Rothberg, M. B., Avrunin, J., Pekow, P. S., Wang, Y., & Krumholz, H. M. (2013). Income inequality and 30 day outcomes after acute myocardial infarction, heart failure, and pneumonia: Retrospective cohort study. *British Medical Journal*, 346(Feb14 3).
- Long, T., Genao, I., Horwitz, L. (2013). Reasons for readmission in an underserved high-risk population: a qualitative analysis of a series of inpatient interviews. *British Medical Journal* 3(9): e003212. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3780332/>
- Lukachko, A., Hatzenbuehler, M. L., & Keyes, K. M. (2014). Structural racism and myocardial infarction in the United States. *Social Science & Medicine*, 103, 42-50.
- McCormick, T. R. (2013). Principles of Bioethics. Retrieved from <https://depts.washington.edu/bioethx/tools/princpl.html>
- McHugh, M. D., Carthon, J. M., & Kang, X. L. (2010). Medicare Readmissions Policies and Racial and Ethnic Health Disparities: A Cautionary Tale. *Policy, Politics, & Nursing Practice*, 11(4), 309-316.
- McIlvennan, C. K., Eapen, Z. J., & Allen, L. A. (2015). Hospital Readmissions Reduction Program. *Circulation*, 131(20), 1796-1803.
- Mitchell, S. E., Sadikova, E., Jack, B. W., & Paasche-Orlow, M. K. (2012). Health Literacy and 30-Day Postdischarge Hospital Utilization. *Journal of Health Communication*, 17(Sup3), 325-338.
- Moore, C. D., Gao, K., & Shulan, M. (2013). Racial, Income, and Marital Status Disparities in Hospital Readmissions Within a Veterans-Integrated Health Care Network. *Evaluation & the Health Professions*, 38(4), 491-507.
- Murberg, T. A., & Bru, E. (2001). Social relationships and mortality in patients with congestive heart failure. *Journal of Psychosomatic Research*, 51(3), 521-527.
- Nagasako, E. M., Reidhead, M., Waterman, B., & Dunagan, W. C. (2014). Adding Socioeconomic Data To Hospital Readmissions Calculations May Produce More Useful Results. *Health Affairs*, 33(5), 786-791.
- Oronce, C. I., Shao, H., & Shi, L. (2015). Disparities in 30-Day Readmissions After Total Hip Arthroplasty. *Medical Care*, 53(11), 924-930.

- Paradies, Y., Priest, N., Ben, J., Truong, M., Gupta, A., Pieterse, A., . . . Gee, G. (2013). Racism as a determinant of health: A protocol for conducting a systematic review and meta-analysis. *Systematic Reviews*, 2(1), 85.
- Philbin, E. F., Dec, G., Jenkins, P. L., & Disalvo, T. G. (2001). Socioeconomic status as an independent risk factor for hospital readmission for heart failure. *The American Journal of Cardiology*, 87(12), 1367-1371.
- Rodríguez-Artalejo, F., Guallar-Castillón, P., Herrera, M. C., Otero, C. M., Chiva, M. O., Ochoa, C. C., . . . Pascual, C. R. (2006). Social Network as a Predictor of Hospital Readmission and Mortality Among Older Patients With Heart Failure. *Journal of Cardiac Failure*, 12(8), 621-627.
- Rubin, D. J., Donnell-Jackson, K., Jhingan, R., Golden, S. H., & Paranjape, A. (2014). Early readmission among patients with diabetes: A qualitative assessment of contributing factors. *Journal of Diabetes and Its Complications*, 28(6), 869-873.
- Rubin, D. J. (2015). Hospital Readmission of Patients with Diabetes. *Current Diabetes Reports*, 15(4).
- RWJF. (2013). The revolving door: a report on U. S. hospital readmissions. Retrieved from: <http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf404178>
- Sattler, E. L., Lee, J. S., & Young, H. N. (2015). Factors Associated with Inpatient Hospital (Re)admissions in Medicare Beneficiaries in Need of Food Assistance. *Journal of Nutrition in Gerontology and Geriatrics*, 34(2), 228-244.
- Shen, Y. C., & Zuckerman, S. (2005). The Effect of Medicaid Payment Generosity on Access and Use among Beneficiaries. *Health Services Research*, 40(3), 723-744.
- Vivo, R. P., Krim, S. R., Liang, L., Neely, M., Hernandez, A. F., Eapen, Z. J., . . . Fonarow, G. C. (2014). Short- and Long-term Rehospitalization and Mortality for Heart Failure in 4 Racial/Ethnic Populations. *Journal of the American Heart Association*, 3(5).
- Weissman, J. S., Stein, R. S., & Epstein, A. M. (1994). The Impact of Patient Socioeconomic Status and Other Social Factors on Readmission: A Prospective Study in Four Massachusetts Hospitals. *Inquiry*, 31(2), 163-172.
- Zhang, Y., Kaplan, C. M., Baik, S. H., Chang, C. H., & Lave, J. R. (2014). Medication Adherence and Readmission In Medicare Myocardial Infarction. *American Journal of Managed Care*, 20(11), 498-505.