

# Addressing Inequities in Care Transitions

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## I. Introduction

As the country's demographics change, with one in five Americans predicted to be aged 65+ by 2035<sup>1</sup>, care coordination and transitional care become increasingly important components of the health care delivery system. The Patient Protection and Affordable Care Act, referred to as the Affordable Care Act (ACA), includes a variety of provisions directed at achieving the "triple aim" of higher quality, improved population health, and lower costs. In this vein, it explicitly demands attention to the creation of improved health care systems that promote home- and community-based services as a strong alternative to the default of institutionalized care.

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The transition from hospital to home is physically stressful for patients, and coordination of the multiple providers and services needed to keep older adults healthy in the community is complex and difficult to navigate. Serious (and costly) consequences of poor transitions include: high rehospitalization/readmission rates, unnecessary nursing home admissions, caregiver stress and poor health, deteriorating health status,

medication errors, redundant diagnostic testing, compliance and continuity of care problems, and increased health care costs for individuals, safety net providers, payers, and the public.<sup>2</sup> Transitional and coordinated care interventions are a way to mitigate fragmentation and reduce the risk of these outcomes as patients move through a variety of care settings and interact with numerous health care professionals.

Hospital admissions and readmissions, and the reasons leading to them, are important markers of how people interact with the health system. The ACA's Medicare Hospital Readmissions Reduction Program specifically focuses on reducing inpatient hospitalizations that occur within 30 days of discharge from an initial inpatient stay. In order to address overall hospital readmission rates, it is important to analyze root causes of readmissions, identify which patients are more likely to be readmitted, and incorporate best practices to prevent potentially avoidable readmissions. While many readmissions are planned and medically necessary, a significant proportion has historically been categorized as "potentially avoidable." (A meta-analysis of studies from 1966 – 2010, mostly from the United States and the United Kingdom, found a median of 27.1%, but up to 79%, of hospital readmissions were potentially avoidable.)<sup>3</sup> It is precisely these avoidable readmissions that transitional care interventions hold promise in preventing.

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In 2010, African-American Medicare beneficiaries in Chicago had a 30-day readmission rate of 29.9%, more than 50% higher than the national average of 19.2%<sup>4</sup>. According to Kaiser Health News, hospitals that care for low-income patients are twice as likely to be penalized for high readmission rates under the ACA compared with hospitals with the fewest low-income patients.<sup>5</sup> These striking statistics beg us to examine these and other disparities in care transitions – and the inequality in conditions leading to those disparities.

Although it is beyond the scope of this report, it is important to note that inequities also exist in potentially preventable initial hospitalizations. A 2006 report from the Agency for Health Care Research and Quality found that African American patients were three to five times more likely to be admitted to a hospital for a chronic condition that could have been treated in an ambulatory setting.<sup>6</sup> Non-white Hispanic/Latinos<sup>1</sup> had a two to three times higher rate of potentially preventable hospitalization for chronic conditions. This disparity may indicate unequal access to and quality of primary and preventive care, or may reflect the impact of the social determinants of health on minority populations. More research is needed to examine the causes and possible interventions to address potentially preventable hospitalization and the related issue of use of Emergency Departments for ambulatory sensitive conditions. Because this report is concerned with the impact of care transitions on older adults after a hospitalization, however, it will focus on readmissions, while recognizing that the underlying admission rates of communities and health systems are strong predictors of readmission rates.<sup>7</sup>

## **II. Context for Addressing Care Transitions**

Due to the challenges that readmissions bring to individuals and their caregivers, to communities, and to health systems, there is a large body of research around reducing hospital readmissions. Many studies investigate the efficacy of various efforts to reduce readmissions, which include improving discharge processes and providing care to an individual throughout a transition (such as education on the discharge plan, communicating information to primary care providers, checking in with individuals after discharge through in-home visits or telephonic communications). These interventions tend to be resource intensive and are often not reimbursed. (The Affordable Care Act's Community-based Care Transitions Program offered contractual reimbursement to "collaboratives" of community-based organizations providing transitional care services in partnership with hospitals. However, the reach of this program has been limited: funding is for two years, with a possible extension to a maximum five years. Funding was extended to 101 partnerships in 40 states, whereas there are nearly 5,000 hospitals serving Medicare patients across the country.<sup>8,9</sup> As of September 2014, 24 collaboratives received contracts extending their funding beyond the initial two years.<sup>10</sup>)

Given the expense of implementing a transitional care intervention, it is critical to target the service provision at those most likely to be readmitted. In order to do this, it is first necessary to identify those who are at high risk for readmission. Ideally, risk prediction models would be applicable to clinical settings and would function early enough during a hospitalization to prompt a transitional

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care intervention, many of which involve discharge planning and often begin well before hospital discharge. While some risk prediction models have found early success in helping systems target their transitional care efforts, many have performed poorly, and improvements on their performance are needed for widespread usage.<sup>11,12</sup> Furthermore, most risk prediction models do not have sufficient predictive accuracy to be used in a clinical setting because different hospitals may have widely different characteristics in their patient populations.<sup>13</sup> Finally, existing risk prediction models may confuse markers of true causal factors with the actual causes of readmission risk, making interpreting this research and developing interventions challenging. For example, Medicaid enrollment may be a marker for inadequate access to primary care rather than a cause of readmissions itself.<sup>14</sup>

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<sup>1</sup> A note about Hispanic/Latino: For the remainder of the paper, we will use "Hispanic" to designate individuals with ethnicity connecting them with the countries of Latin America and Spain.

Despite these difficulties in researching the causes of readmissions, health systems can and should continue to develop interventions – building on efforts already underway that have an evidence-base – for avoiding preventable readmissions based on known characteristics that impact readmissions. These factors have impact across systems: the individual and caregivers, the providers and care provided, and the community. Many of these factors are medical in nature, such as sodium and hemoglobin levels at discharge, whether the initial admission was elective or non-elective, number of procedures during the original admission, and length of hospital stay.<sup>15</sup>

However, many studies indicate that a significant number of readmissions are also tied to non-medical factors. One study found that 40-50% of readmissions were related to psychosocial problems and a lack of community support resources.<sup>16</sup> Another found that unplanned readmissions are “largely determined by broader social and environmental factors” and that “much of what drives hospital readmission rates are patient- and community-level factors that are well outside the hospital’s control.”<sup>17</sup>

Meanwhile, healthcare delivery system reform is starting to reflect the importance of connecting medical care with social services and supports. For example, the Community-based Care Transitions Program supports community-based organizations to partner with hospitals to bridge care from the hospital back out into the community after discharge. Additionally, various risk-based, capitated payment models incentivize hospitals to work with a variety of community providers, many of whom provide “non-medical” services such as homemaker support, transportation, and home modifications, to affect patient outcomes beyond the four walls of the hospital.

As the pressure grows to reduce hospital readmissions, it is worthwhile to dive deeper into utilization data to find more specific patterns and characteristics that might lead to a higher risk of readmission. These data, of course, are only a piece of the picture, and it will be crucial for researchers and health systems to see health care “through the eyes of the patient,” and fit data into a theoretical framework of how patients experience care.<sup>18</sup> With this caveat in mind, we will start with a review of research into risk factors for readmission. As highlighted above, risk factors act at various levels of the system: the individual and caregiver (“patient level”), the provider and health system (“care level”), and the community (“community level”).

### **Patient Level Factors**

When looking at the level of the individual patient, a few characteristics surface that have been connected with higher readmission risk: racial and ethnic identity, Medicaid eligibility, and income.

#### Race and ethnicity

One theme that emerges when looking at individual characteristics associated with high readmission risk is that race and ethnicity may play a significant role. Multiple studies highlight African Americans having higher readmission rates than non-Hispanic whites. In the Medicare fee-for-service population between 2007-2010, African Americans had a 30-day readmission rate of 24.1%, while non-Hispanic whites had a readmission rate of 18.3%.<sup>19</sup> Another important metric to consider is one individual having multiple hospitalizations and subsequent

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readmissions (i.e. having multiple hospitalizations between 2007 and 2010, and a readmission within 30 days of two or more of those hospitalizations). From 2007-2010 in the Medicare population, more African Americans experienced multiple 30-day readmissions than did non-Hispanic whites (5.3% vs. 3.7%). When we look at higher levels of multiple readmissions, the racial disparity is even more stark. While African Americans made up 10% of the Medicare population, they comprised 20% of the population who had three or more 30-day readmissions between 2007-2010.<sup>20</sup>

There are also differences when comparing readmission rates by race/ethnicity among certain diagnoses. For individuals with heart failure or acute myocardial infarction, two conditions targeted for readmission reduction by Medicare, Hispanics had higher readmission rates than non-Hispanic whites.<sup>21</sup> For those with diabetes, African Americans and Hispanics across payer types were more likely to readmit within 180 days of discharge than non-Hispanic whites. Moreover, African Americans and Hispanics had higher rates of preventable readmissions (classified in this case as the readmission diagnosis being connected with “complications more likely preventable with effective post-discharge care”).<sup>22</sup>

### Income and Medicaid

Another characteristic that emerges in the literature that is tied with high risk of readmission is poverty level.<sup>23</sup> Multiple studies highlight Medicaid recipients as having higher rates of singular readmissions and of repeat readmissions.<sup>24,25,26</sup> Among Medicare fee-for-service beneficiaries, the readmission rate for individuals who were dually eligible for both Medicare and Medicaid was higher than for those not eligible for Medicaid (23.8% vs. 17.3%; 2007-2010).<sup>27</sup> Non-elderly Medicaid recipients have also been shown to have a higher readmission rate than individuals with commercial insurance.<sup>28</sup> Another study reported that individuals either with Medicaid coverage or without insurance were more likely to report many characteristics that were found to contribute to readmission risk, such as difficulty understanding and executing discharge instructions, difficulty adhering to medications, reporting a lack of social support, and lack of basic resources.<sup>29</sup>

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### Other factors

Many other factors at the individual level also have been shown to have an impact on hospital readmissions. These include living alone, having unmet functional needs, lacking self-management skills, and having a limited education.<sup>30</sup> These characteristics interact with poverty, race and ethnicity, age, and disability status, further complicating interventions focusing on patient-level factors and suggesting the need for further research to examine these interrelationships in order to better target resources.

### **Care Level Factors**

While we have described evidence pointing to various client-level characteristics that could put an individual at higher risk for readmission, it is important to look beyond the client to the context in which he or she lives and receives care. Factors such as staying at a skilled nursing facility and specific hospital characteristics have been found to impact readmissions.

### Skilled Nursing Facilities

One risk factor contributing to hospital readmissions is a prior nursing facility stay. Among Medicare beneficiaries from 2007-2010, the readmission rate for individuals following a nursing facility stay of three or more months was higher than for individuals not following such a nursing facility stay (23.3% vs. 18.8%).<sup>31,32</sup> In recognition of the role of nursing facilities in hospital readmissions, the Protecting Access to Medicare Act of 2014 (also known as the “doc payment fix bill”) included a value-based purchasing

*Over half of the Chicago-area nursing homes serving mostly African Americans received the lowest federal quality rating.*

program for skilled nursing facilities (SNF) that would base future SNF payments partially on their hospital readmission rates. Starting in October 2018, Medicare will withhold 2% of SNF payments to create an incentive payments pool. Based on a methodology to be developed by the Department of Health and Human Services, nursing homes will receive bonus payments—that may or may not make up for the 2% withhold—

based on their rank in performance scores measuring readmissions.<sup>33</sup> This new financial incentive is likely to encourage more nursing facilities to implement strategies to address readmissions and to pursue partnerships with hospitals to cooperate on care transitions.

As is the case with hospital readmission penalties, nursing facilities will respond to these new financial incentives in the context of existing racial inequities. Research by the Community Renewal Society found significant disparities in care at Chicago-area nursing homes in 2009: of the homes where a majority of the residents were African American, over half received the lowest federal quality rating, compared to just 8% of homes where the majority of residents were white.<sup>34</sup> More recent research by the Center for Public Integrity examined Medicare cost reports and found racial disparities in staffing levels that were obscured in self-reported Nursing Home Compare staffing data. The Center determined that nursing facilities with a majority of white patients had daily average registered nurse staffing levels 60% higher than majority-Hispanic nursing facilities and 34% higher than majority-African American facilities. Chicago and Houston had the greatest disparities in nursing staffing levels between nursing facilities with a majority of African American residents and those with a majority of white residents, according to the Center’s research.<sup>35</sup>

Although readmissions will not be publicly reported on federal Nursing Home Compare ratings until October 2017<sup>36,37</sup>, the fact that disparities have been documented in other quality measures highlights the need for ongoing monitoring of disparate outcomes at Chicago nursing facilities. Meanwhile, the differences in staffing levels reported for Nursing Home Compare and those in Medicare cost reports identified by the Center for Public Integrity are a sign that we need improvements in public reporting that consumers rely on to identify quality providers.<sup>38</sup>

### Hospitals

Disproportionately high readmissions rates have been identified in hospitals that serve predominantly African American or Hispanic patients, even when adjusting for the race/ethnicity of the patient. Karen Joynt and Ashish Jha have produced multiple studies examining the impact of the site of care on quality measures, including readmissions. A 2011 Journal of

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the Medical Association (JAMA) study authored by Joynt and Jha warns, “Despite ongoing interest in understanding disparities, much of the previous work has focused on differential outcomes between racial groups, without taking into account the systems within which care is delivered.”<sup>39</sup> That study looked closer at the hospitals where African American and white patients receive care and found that the site of care contributed more to readmissions disparities than the race of the patient. In particular the study found that patients of any race were more likely to be readmitted if they received care at

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hospitals that served the highest proportion of African American patients in a community. Adjusting for mortality, patients’ prior hospitalizations, and the in-hospital procedures patients received eliminated the racial disparity in readmissions at non-minority-serving hospitals. The study concludes that “the hospital at which a patient receives care appears to be at least as important as his/her race.”<sup>40</sup>

Health & Medicine found that in the Chicago area, hospitals with a majority of African American patients have higher readmissions penalties than non-majority African American hospitals (Figure 1). Figure 1 substantiates Joynt’s concern that “minority-serving hospitals might be disproportionately affected by such penalties.”<sup>41</sup> Individual transitional care interventions themselves cannot resolve this potential policy distortion, but it affects that work, and we offer some broader policy recommendations later in this paper.

**Figure 1. Readmission Penalties at Chicago-area Hospitals for FY 2015**

	Number of Hospitals on Medicare Readmission Penalty Report	Mean FY 2015 readmission penalty	Percentage of hospitals with readmission penalty higher than Chicago-area mean	Median FY 2015 readmission penalty	Percent of hospitals with readmission penalty higher than Chicago-area median
<b>All hospitals</b>	68	0.71%	40% (27/68)	0.51%	50.0%
<b>Hospitals with majority African American patients</b>	18	0.86%	50% (9/18)	0.64%	61.1% (11/18)
<b>Hospitals with majority non-African American patients</b>	50	0.65%	36% (18/50)	0.48%	46.0% (23/50)

Source: 2013 Illinois Department of Public Health Hospital Questionnaires<sup>42</sup>

Notes: “Chicago-area” includes Cook, DuPage, Lake, Kane, and Will counties

Median FY 2015 Chicago-area hospital readmission penalty is 0.51%. Mean FY 2015 penalty is 0.71%.

While increased readmission rates may indicate more intense problems with access and fragmentation in communities served by these hospitals, Joynt, Jha, and others have demonstrated that readmission rates are not reliably associated with quality of care.<sup>43,44</sup> Therefore, we cannot assume that the racial disparity in readmissions rates is an indicator of disparities in quality of care. However, we found that hospitals in the Chicago-area with a majority of African American patients also tend to have lower quality scores, as measured by Medicare's Value-Based Purchasing (VBP) scores:

**Figure 2. Value-Based Purchasing Scores at Chicago-area Hospitals, 2013**

	Number of Hospitals with VBP scores (n=63)	Hospitals below mean VBP score (#)	Hospitals below mean VBP score (%)
Hospitals with majority African American patients	17	11	64.7%
Hospitals with majority non-African American patients	46	18	39.1%

Source: 2013 Illinois Department of Public Health Hospital Questionnaires<sup>45</sup>

Others have sounded the alarm about Chicago's racial health disparities,<sup>46</sup> and these data on both readmissions and quality measures confirm that deep inequities persist. Care transitions programs exist in the context of these inequities, and while improved care transitions cannot claim to offer a comprehensive solution, it is important to be aware of inequities as these programs are implemented, hopefully allowing for some mitigation in the disparities.

#### A note on ethnicity and health disparities

Another study that Joynt and Jha contributed to found that Hispanic-serving hospitals, defined as hospitals in the top 10% in the proportion of patients that are Hispanic, had higher readmission rates than non-Hispanic serving hospitals among heart failure and acute myocardial infarction patients.<sup>47</sup> This was true for both Hispanic and non-Hispanic white patients at Hispanic-serving hospitals, which shows again that factors are operating beyond the individual characteristic of race and ethnicity. The study acknowledged that many datasets include misclassifications of Hispanics as whites, which could lead to an underestimation of the disparity in readmission rates by ethnicity. Health & Medicine worked with self-reported data on race and ethnicity of hospital patients that likely shares the same limitation. Furthermore, there is only one hospital in the Chicago area that had a majority of patients identified as Hispanic, making it difficult to recreate the tables above for Hispanic patients. We attempted to compare readmission rates for hospitals above and below the median proportion of Hispanic patients and found that Hispanic-serving hospitals had lower readmission penalties (see Figure 3, in Appendix on pg. 20). Further research is needed to understand the impact that the site of care has on the quality of care that Hispanic patients receive in Chicago.

#### Other Hospital Characteristics

Among Medicare beneficiaries with heart failure (2006-2007), Joynt, Jha, et al found that readmission rates were higher when the discharging hospital had certain characteristics:<sup>48</sup>

- was public (27.9% readmission rate, vs. 25.7% at non-profit hospitals);
- did not have full cardiac services (27.2%, vs. 25.1% at hospitals with full cardiac services);
- was in the lowest quartile of nurse staffing (28.5% vs. 25.4% at hospitals in the highest quartile);
- had fewer than 100 beds (28.4% vs. 25.2% at hospitals with more than 400 beds); and
- was located in a county with low median income (29.4% vs. 25.7% in high median income counties).

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In addition to being associated with serving minority patients, these are also characteristics defining hospitals with limited resources, whether financial or clinical. It is also important to note that some of these characteristics may be correlated, but further investigation is needed.

Again, this research suggests that readmissions stem from risk factors beyond individual patient and caregiver characteristics, and care transitions programs must account for those factors as they continue to evolve. These characteristics may also be important indicators to consult while providers, payers, and the State begin to build integrated delivery systems. Specific hospital characteristics such as these that may be correlated to quality outcomes can guide decisions about where patients ought to receive care and also about which hospitals may need additional support and technical assistance to participate fully in high-performing integrated systems.

### Community Level Factors

Care transitions are focused on the patient beyond the four walls of the hospital, and there are many factors in the community that affect outcomes, including readmissions. Apart from the individual's characteristics, for example, the economic characteristics of the place he or she lives affects readmission rates. In a retrospective study of patients with heart failure (1987-2004), those with high comorbidities

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who lived in an area with low neighborhood median household income were at higher risk for admissions, readmissions, and death than those with high comorbidities living in an area of high neighborhood median household income (after controlling for race).<sup>49</sup> This appears to continue to hold true today: a 2014 Health Affairs study found that patients living

in high-poverty neighborhoods were 24% more likely than others to be readmitted, after adjusting for demographic characteristics and clinical conditions.<sup>50</sup> Another recent retrospective study found that after controlling for other factors, residing within a disadvantaged U.S. neighborhood gave Medicare beneficiaries a readmission risk similar to having chronic pulmonary disease.<sup>51</sup>

In addition to low income levels being a risk factor for readmission, income inequality may create conditions for higher readmissions as well. Medicare utilization data from 2006-2008 showed that states with higher levels of income inequality were associated with higher readmissions rates for acute

myocardial infarction, heart failure, and pneumonia, even after adjustment for socioeconomic characteristics such as individual income and educational achievement.<sup>52</sup>

These studies reinforce the importance of considering sociodemographic factors across a range of levels – patient, care provider, and community – in predicting and responding to the risk of rehospitalization. In particular, race and ethnicity emerge among patient level, care level, and community level factors that are correlated with worse outcomes. Interventions to improve transitional care and reduce readmissions should incorporate components to specifically address the identified inequities.

### **III. Current Approaches to Improving Transitional Care**

Many transitional care interventions exist that attempt to improve outcomes for older adults. Many programs work directly with individuals and their caregivers, such as Dr. Eric Coleman’s Care Transitions Intervention, Mary Naylor’s Transitional Care Model, the GRACE model, the Guided Care Model, and the Bridge Model of transitional care. Other interventions include changes at the care level, including improving discharge processes and using electronic health records to streamline communication, such as Project BOOST and Project RED. Some approaches, including the Bridge Model, include a component of community partnership building.

In 1965, the National Aging Network (the Aging Network) was created with the passage of the Older Americans Act. The Aging Network is one of the nation’s largest provider networks of home and community-based care for older persons and their caregivers. Many of the ACA’s provisions aim to support the Aging Network and promote integration with the medical health care system, such as funding for expanding Aging and Disability Resource Centers, patient-centered medical home support teams, and post-hospital-discharge care transitions programs driven by community-based organizations. As mentioned above, the Community-based Care Transitions Program is one of these provisions.

#### **The Bridge Model**

In 2008, Health & Medicine Policy Research Group joined with Aging Care Connections (a suburban Cook County Aging Network organization) and Rush University Medical Center to create the Illinois Transitional Care Consortium to collaborate on the creation and development of The Bridge Model of transitional care. The Illinois Transitional Care Consortium, now known as the Bridge Model National Office (BMNO), has six member organizations spanning the spectrum of patient care: community-based Aging Network organizations and health systems in urban, suburban, and rural communities; a school of public health; and Health & Medicine.

The Bridge Model is a new, innovative model of transitional care that focuses on the transitional care needs of older adults from a social, functional, environmental, cultural, medical, and psychological (“biopsychosocial”) perspective and emphasizes collaboration between hospitals, community-based providers, and the Aging Network.

The Bridge Model relies on master’s-prepared social workers to provide intensive care coordination and social work clinical intervention that starts in the hospital and continues after discharge to the community. The social worker (“Bridge Care Coordinator”) meets with the patient and caregivers at the hospital to identify and address needs, and stays involved supporting the patient throughout the month following discharge, either by telephone or home visits. The Bridge Care Coordinator is equipped to help

patients with any number of needs that will support their recovery in their homes and communities, and potentially prevent readmissions. The use of social workers who are trained to identify and respond to biopsychosocial needs distinguishes Bridge from other transitional care models, which typically focus on the medical aspects of recovery. By utilizing a comprehensive assessment that gathers information on social determinants of health, such as transportation issues or over-burdened caregivers, the Bridge Model was designed to catch the important factors that a more strictly medical model can overlook but are vital to independent living. The Bridge Model has potential benefits for diverse patient populations and is adept at addressing cultural differences because of its person-centered social work approach.<sup>53</sup>

#### **IV. Best Practices of Addressing Health Disparities**

Although we know that racial and ethnic disparities in readmissions exist, we do not have an evidence base for strategies to reduce disparities in care transitions and readmissions in particular. An Agency for Healthcare Research and Quality-funded study concluded, “Although hospitals are being penalized for excessive readmission rates, the strategies that an individual hospital can implement to improve transitional care remain largely undefined.”<sup>54</sup> Recognizing the need for more research in this area, the Patient-Centered Outcome Research Institute (PCORI) funded an impressive three-year study that aims to identify transitions-related services and outcomes that matter most to patients and caregivers, as well as to evaluate the impact of various components of current transitional care efforts on those outcomes. Highlighting the lack of existing evidence in the literature, the project’s proposal stated: “Research has not delineated which components of these transitional care approaches are necessary at what dose, how implementation of core components may need to be adjusted based on patient, caregiver, care delivery setting, or community/environmental characteristics, or how knowledge regarding core components can be used to accelerate system redesign.”<sup>55</sup>

There appears to be even less research identifying strategies to improve the disparities in outcomes related to transitional care. To cite just one indicator of the gap in research, The Robert Wood Johnson Foundation has created an online tool, “Finding Answers: Disparities Research for Change,” that identifies and compiles “promising intervention strategies” for addressing health disparities.<sup>56</sup> Searching for “readmissions” in their tool produced only one result, which was a study expressing hope that payment reforms might help finance a patient education program that could reduce readmissions. The absence of studies in their database indicates the overall gap in research into impacting disparities in care transitions.

Taking seriously the Robert Wood Johnson Foundation’s recommendation to make equity an integral component of quality improvement efforts, we believe there is promise in investigating the potential for The Bridge Model to reduce health disparities.

Without extensive research identifying successful interventions to reduce disparities in transitional care and readmissions, we searched for successful interventions that target other sources of health disparities, such as disparities in adherence to screening protocols, use of evidence-based processes of care, and health outcomes. We categorized each promising intervention based on the level it seeks to influence: patient level, care level, and community level. (Note that we identify policy-level recommendations in section five, below.) There is an immense general quality improvement literature, but relatively few studies have specifically examined how to improve the quality of health care for minorities and even fewer studies have identified the reduction of health disparities as an outcome.

The Bridge Model and other care transitions interventions are targeted programs that cannot significantly alter the conditions that produce health disparities without coordinating with other reforms and broader policy changes. This paper concludes with policy recommendations that address the limitations of one program's impact on disparities.

It is important to note that many quality improvement initiatives, such as the Center for Medicare & Medicaid Innovation, are supporting demonstration programs to investigate potential avenues to deliver care to those currently falling through the cracks. One such program is the Comprehensive Care Physician demonstration project at the University of Chicago.<sup>57</sup> In this project, one central physician provides both outpatient and inpatient care for individuals at high risk for hospitalization and the care team follows the individual with intensive care coordination. While such demonstration programs hold promise for reducing disparities, results are limited at this time and will need to be considered in as they are released in the future.

### **Interventions at the Patient Level**

#### *Patient Education*

Many interventions are designed to educate patients about specific conditions, like cardiovascular disease and diabetes, and how to self-manage and adopt healthy behaviors. In general, patient education interventions have shown promise in reducing disparities. However, best practices regarding who delivers the education (physician, pharmacist, nurse, community health worker, etc.) and effective culturally-tailored education and “culturally competent” care have not been definitively identified.<sup>58</sup> One meta-analysis found that clinic-based interventions “that combined skills training and cultural or interactive engagement of participants were superior to those depending on didactic messaging...in preventing HIV acquisition in racial and ethnic minorities.”<sup>59</sup> This study concluded that further research is needed to evaluate interventions tailored to specific sub-populations.

Another meta-analysis found that some educational interventions were effective in improving asthma care for minority patients, but did not find evidence specifically for culturally-tailored education. Again, the meta-analysis called for further research into culturally-tailored education. The same meta-analysis concluded that educational interventions that began in the hospital and continued with outpatient follow-up showed the most promise to reduce disparities in asthma outcomes.<sup>60</sup>

A review of disparities intervention research conducted for the Veterans Administration did identify culturally-tailored education as potentially promising intervention for reducing disparities, especially for improving diabetes care and increasing use of prevention services among minority veterans.<sup>61</sup> One meta-analysis that the VA reviewed found short- and medium-term improvements in glycemic control following culturally-appropriate diabetes education.<sup>62</sup> Another meta-analysis of theory-based interventions showed interventions that were tailored to characteristics of the individual had a greater effect on improving mammography than non-tailored interventions.<sup>63</sup> More research is needed, however, to establish what factors may enhance culturally-tailored health education to produce sustainable, long-term improvements in prevention and chronic disease management.

Care transitions programs can learn from these experiences with culturally-tailored education, but based on the variability in outcomes from studies of culturally-tailored education, more research is needed to identify the key elements of successful patient education interventions. Furthermore, patient

education efforts that are directed at teaching self-management for chronic conditions need to be responsive to the lived experience of particular patients. Income and health literacy levels affect the resources patients have available to self-manage chronic conditions, and their expectations and priorities for their health, shaped by lived experience, also define their awareness and practice of self-management. To reach patients with low income and low health literacy, patient education programs need to find ways to tailor “messages so the outcomes for which outcome expectations are to be built fall within an individual’s life priorities.”<sup>64</sup>

#### *Provider-Patient Communication*

A study of patient-provider communication sought to examine the root causes of the sometimes tense provider-patient communication between physicians and African American patients. Research has shown that communication and trust between patients and providers is poorer for African American patients than white patients.<sup>65,66,67,68</sup> A study in the Archives of Internal Medicine identified African American patients’ fear that providers will negatively stereotype them as one possible cause of poorer communication. One group of patients completed a questionnaire asking them to identify and reflect on values that had meaning for them. A control group completed a questionnaire asking them to identify and reflect on values that were not meaningful to them. Results showed that when African-American patients participated in the first “values-affirmation exercise” before their medical appointments, they shared more information about their medical condition and they requested and received more information from providers.<sup>69</sup> While not prescribing a clear intervention, this study highlights the role of provider communication on access and outcomes for African American patients, a difficult issue that any health care intervention needs to take seriously.

#### *Telephone-based care coordination*

In a study of telephone-based interventions targeting low-income minority women, screening rates for colorectal, breast, and cervical cancer increased by 60%, 17%, and 10% respectively over baseline. Study participants were identified at community health centers and migrant health centers in New York City, and care managers shared a health guide with patients when they consented to participate. The first call answered questions about the guide, confirmed screening dates, and responded to barriers to screening that the participant identified. Care managers followed up with phone calls for 18 months or until the patient was up-to-date for all screenings. They also mailed reminders and patient activation cards to assist in communicating with physicians. The study concluded that “a modest intervention can increase screening rates in a predominantly minority population; this improvement could potentially save lives through earlier detection, address health care disparities, and favorably affect such quality measures as the Health Plan Employer Data and Information Set.”<sup>70</sup>

#### *Motivational interviewing*

Motivational Interviewing is defined as “a treatment philosophy and a set of methods employed to help people increase intrinsic motivation by exploring and resolving ambivalence about behavioral change.” This technique is a key social work clinical skill used in client-centered interviewing. Meta-analyses of the effectiveness of motivational interviewing have found that the treatment may be effective for alcohol and drug dependence, treatment engagement and adherence, and promoting healthy behaviors. However, the demonstrated effectiveness of motivational interviewing varies significantly across providers, populations, target problems and settings. There is some evidence that motivational

interviewing is more effective for ethnic minorities, perhaps because it conforms to cultural expectations more than other forms of psychotherapy.<sup>71,72</sup>

## **Interventions at the Care Level**

### *Community Health Workers*

Integrating community health workers (CHWs) into care teams has shown promise to impact disparities. One study found that “community health workers are effective in increasing access to health services, increasing knowledge, and promoting behavior change among ethnic minority women.”<sup>73</sup> A meta-analysis identified that using CHWs in case management programs or in nurse-led teams could be effective in reducing health disparities among racial/ethnic minorities with diabetes. That study found that “CHWs were effective in the following: making and keeping appointments with PCPs and subspecialists; acting as a patient adjunct to the primary care team; and perhaps being as effective as a nurse in case management, which, for health centers with limited resources, may make case management a financially viable option.”<sup>74</sup>

A Chicago-based Sinai Urban Health Institute pilot project implemented and evaluated a CHW model for its effectiveness in reducing asthma morbidity and improving the quality of life among African-American children living in disadvantaged Chicago neighborhoods. In this pilot, trained CHWs from targeted communities provided individualized asthma education during three or four home visits over six months. The results indicated that the intervention was effective at improving outcomes and reducing costs: symptom frequency was reduced by 35%, urgent health resource utilization was reduced by 75%, parental reported quality of life was improved, and medical management was improved.<sup>75</sup>

### *Rotating Staff*

Staffing can be a challenge for care transitions programs, especially for safety net providers with scarce resources. One clinic-based intervention used rotating health educators to make those staff available to more patients at less cost to providers. A 2008 evaluation of a project in North Carolina that used on-site educators for African American clinic patients with diabetes showed that their A1c and lipid levels improved compared to control clinic patients. Vidant Health expanded the program by sharing health educators who rotate through each clinic, which would be unable to afford to employ a full-time educator themselves. Integrating the education with the physician office visit helped avoid creating multiple appointments for patients.<sup>76</sup>

## **Interventions at the Community Level**

### *Partnerships with community-based organizations*

Engaging community-based organizations in addressing disparities is a promising approach. The University of Chicago led an intervention to reduce disparities in diabetes care and outcomes that sought to build on the potential for Chicago’s South Side community-based organizations to support diabetes self-management. Partnerships with local farmers’ markets, pharmacies, food banks, the KLEO Community Life Center, and the 20<sup>th</sup> Ward Ministerial Alliance, were created to reach local residents beyond the clinic and hospital walls, providing access to health education and screenings as well as healthy cooking and physical activity demonstrations. A comparison of six participating community

health centers with six control health centers is planned to evaluate the impact on care and outcomes.<sup>77,78,79</sup>

*The lack of trust between providers and patients, especially minority and low-income patients, is a barrier to community engagement strategies to reduce disparities.*

We must also remember that the past experience communities have with providers and researchers involved in disparities interventions is an important factor that is easily overlooked, but not easily overcome. It is important to note, for example, that another University of Chicago program, the Urban Health Initiative, was criticized for turning away patients in need. Critics pointed to the case of a 12-year old Medicaid patient who had been mauled by a

pit bull and was sent home from the University of Chicago Medical Center's Emergency Room without surgery to repair a serious injury from the attack. The incident spurred criticism from not only the boy's mother but also the American College of Emergency Physicians.<sup>80,81,82</sup> UCMC defended their decision, saying that surgery at the time presented an unacceptable risk of infection. The lesson for community-based interventions is that the case occurred in the context of the community's experience with and perception of the hospital, which resulted in distrust. Lack of trust between providers and patients, especially minority and low-income patients, can be a serious barrier to community engagement strategies intended to reduce disparities.

Another community partnership-based initiative in Los Angeles recognized the existing mistrust between academic research centers and the communities for which they plan interventions. Community Partners in Care (CPIC) in Los Angeles used a community-based participatory research (CBPR) protocol to test methods for improving depression care in an African-American community. The CPIC initiative used a variant of CBPR called Community-Partnered Participatory Research, "which emphasizes consistent and equal participation of community and academic partners at every step, inclusion of the academic participants as part of the community, and rigorous research to guide sustained change."<sup>83</sup>

Responding to the lack of community-based health care providers taking up evidence-based quality improvement programs for depression care, CPIC designed a comparative research project to test "two dissemination approaches to promoting the adoption and use of evidence-based quality improvement toolkits." The community agencies included primary care, mental health, and substance-use disorder providers, faith-based organizations, and park districts. One approach encouraged community agencies to use the toolkit by offering training and technical assistance. The other approach provided training to a wide-range of community agencies "to collectively plan and commit to sharing resources and responsibilities for depression care." The goal for the community engagement approach was to stimulate "communities of practice" that would share resources, develop new local solutions, and sustain commitment from providers and community residents.<sup>84</sup> A six-month evaluation found that compared to the technical assistance approach, the community engagement approach increased staff participation in trainings, improved self-assessments in mental health, quality of life and physical activity, and reduced homelessness risk factors.<sup>85</sup> CPIC was awarded a three-year PCORI grant to study long-term outcomes of community engagement to address depression outcome disparities in 2012.<sup>86</sup>

## **V. Implications for Transitional Care Interventions**

Health systems, providers, and advocates continue to develop approaches to transitional care in search of a model that is effective across settings and communities. Lessons learned from addressing disparities

in other health outcomes, as analyzed in section four above, should be considered as these approaches continue to develop.

#### *Lessons for Transitional Care from Individual and Caregiver Interventions*

- Responding to social and cultural issues can improve communication and effectiveness of interventions
- Continuity of patient education from the hospital to the community settings may result in fewer adverse outcomes
- Patient education interventions need to be monitored and evaluated to determine the most effective implementation strategies
- Patient engagement tools should be tailored to the life experience of patients to build trust and overcome obstacles to self-management
- Phone-based care coordination can improve patient compliance for lower-risk individuals and can be effective for individuals in rural settings

#### *Lessons for transitional care from Provider and Care Settings and Community Interventions*

- Reducing disparities requires acting outside the hospital, before admission and after discharge
- Community health workers can expand access to case management and help care teams address health disparities
- Non-medical community partners can help develop innovative solutions to improving health care, but providers and other institutions may need to overcome mistrust

### **The Potential of the Bridge Model**

As highlighted above, the Bridge Model of transitional care has been developed through a collaborative, community-based process that has evolved through time to incorporate lessons learned from across the nation. Many components of Bridge are already in line with practices outlined above as showing promise for reducing disparities. Bridge Care Coordinators act as the patient's central point of contact, motivator, and advocate in the time of transition. They focus on building rapport with patients, discussing the patient's health-related hopes, fears, and goals, and using social work skills such as motivational interviewing to help patients identify ways to reach those goals. Bridge also emphasizes a patient-centered approach to basic health education, rather than a one-size-fits-all didactic approach based purely on discharge diagnosis. Bridge programs are trained to focus on community partnership-building, allowing them to leverage involvement of trusted community organizations to best serve patients in the transition home. Finally, the best practices discussed above for reducing disparities support Bridge's focus on the importance of not taking a one-size-fits-all approach to patient support and belief that fidelity to the model should not inhibit adaptability to communities.

While Bridge begins before discharge and often includes a bedside visit at the hospital, Bridge's telephonic outreach with patients and providers is the main mode of the intervention, begins shortly after discharge, and continues as needed through the patient's first month at home. Some Bridge sites triage cases and offer a home visit to patients who are deemed as high risk, reflecting the adaptability of the model. Experience has shown that telephonic follow-up is often more appealing to individuals than an in-home visit, as they may be overwhelmed by post-discharge appointments and in-home visits.

Bridge's utilization of master's-prepared social workers likely encompasses some of the benefits that Community Health Workers offer in reducing disparities: providing culturally competent, person-centered care; focusing on the whole person rather than the medical aspects of a case; and being high-value employees for resource-poor institutions.

*Bridge programs are trained to focus on community partnership-building, allowing them to leverage involvement of trusted community organizations to best serve patients in the transition home.*

In further development to ensure true incorporation of best practices to reduce health disparities, the Bridge Model could consider utilizing CHWs, incorporating staffing models such as using a Bridge Care Coordinator across sites to expand availability of the intervention, and being more intentional about how to provide patient education and culturally-competent care. However, as is, Bridge is designed for patients who have already been admitted, and Bridge programs only exist in health systems and organizations who can afford to become trained in the model and to employ the necessary staff to actually implement the intervention.

### **Policymaking and Addressing Disparities in Readmissions**

As discussed, research has shown the importance of the setting of care in reference to readmissions and specifically how hospitals with disproportionate levels of minority patients had higher readmissions for both minority and non-minority patients. Moreover, after controlling for poverty level, minority-serving hospitals were more likely to be public, to have more Medicaid recipients, and to have fewer nurses on staff, characteristics that were highlighted above as being associated with high readmission rates.<sup>87</sup> Those hospitals should be targeted for quality improvement, given their current poor performance, but "efforts that rely on penalties and rewards may further widen the quality gap."<sup>88</sup>

A JAMA editorial expresses the hope that research will "spur clinical leaders and policy makers to find new ways to reduce disparities in this important health outcome":

Rather than a one-size-fits-all approach, programs should be developed that address the specific needs of vulnerable patients and the hospitals that care for them. Hospitals in one area of the country may have different needs than hospitals in other areas, because of local infrastructure, resources, access to care, and integration of outpatient practices... Policies that promote care outside the hospital in areas with these challenges are needed to ensure that vulnerable patient populations do not continue to receive the majority of their health care in hospital settings.<sup>89</sup>

These studies show that there are important lessons for care transitions programs. First, quality improvement initiatives that have proven to be effective at reducing disparities within one system of care may not work in a different context. As such, the Bridge Model deliberately builds in flexibility to allow for variations in communities and hospitals. The need for flexibility also highlights the importance of intensively collecting data to help determine which factors are the root causes of disparities.

*“Policies that promote care outside the hospital... are needed to ensure that vulnerable patient populations do not continue to receive the majority of their health care in hospital settings.”*

Another lesson is to target hospitals that serve vulnerable populations for quality improvements. Section two of this paper began by noting the need to target care transitions interventions to those patients most likely to be readmitted. Given what we know about the importance of the setting of care for readmissions rates, it is also

imperative that care transition programs target the hospitals most likely to produce readmissions. Often, those are the hospitals that are least likely to have the resources to invest in transitional care programs and other quality improvement initiatives. Joynt’s study notes that “several studies have found that interventions beginning in the hospital and focusing on transitional care can reduce readmissions, but whether minority serving hospitals engage in such programs as often or as effectively as non–minority-serving hospitals is unclear.”<sup>90</sup> The Bridge Model is precisely that kind of intervention, but it requires resources to implement. Financial penalties reduce hospital resources further, making it even more difficult to invest in quality improvement. If penalties for high readmission rates disproportionately affect minority-serving hospitals, as Joynt’s study suggests, then the Hospital Readmission Reduction Program could actually make disparities worse.

### Hospital Quality

To avoid exacerbating disparities and help boost performance at safety net hospitals, Medicare and other payers can target quality improvement programs at minority-serving and other safety net hospitals. Adrian Hernandez and Lesley Curtis’s JAMA editorial suggest a policy that, in addition to performance-based rewards, does the following:

- “set[s] aside additional funding for hospitals that shoulder the responsibility of caring for vulnerable populations and show measurable, sustainable improvement over time”
- rewards hospitals “directly for improving care and outcomes of vulnerable patient populations instead of rewarding hospitals with intrinsic advantages of location, payer mix, and affluence”
- directly reimburse “proven programs to encourage demonstrations of effectiveness through large randomized trials”
- supports federal research to identify multi-faceted solutions that are more like public goods than return-producing commodities<sup>91</sup>

Joynt and Jha also recommend the following improvements to the Hospital Readmissions Reduction Program in an editorial in the New England Journal of Medicine:

- add patient eligibility for Supplemental Security Income to risk adjustment models
- weight readmissions penalties based on the timing of the readmission, such that readmissions within hours or days—which hospitals can more reasonably be expected to prevent through care coordination and discharge planning—are penalized more strongly than those within several weeks
- credit hospitals for low mortality, perhaps by measuring “days alive and out of the hospital,” in order to reward high-quality providers that also have high readmissions (such as some teaching hospitals)<sup>92</sup>

Following these recommendations to revise Medicare readmission penalties could mitigate the risk of worsening existing inequities. Withdrawing resources from struggling safety net hospitals, which the current readmission reduction program risks doing, keeps successful transitional care models out of reach of those who need them most. Reforming the program as Joynt and Jha suggest could make the incentive to improve transitional care more effective, especially for hospitals that treat the sickest and poorest patients.

In addition to protecting safety net hospitals and their patients, readmissions penalties could be revised to support quality *improvement* as well as provider *accountability*. A 2013 Commonwealth Fund report points out this important distinction. Readmission rates track which providers are doing better or worse at preventing readmissions but reveal little about how some systems achieve better results. Relying on rates, like readmissions per 100 patients, “can obscure fluctuations in admissions, thus impairing the measure’s ability to detect improvement.” On the other hand, hospitals that track the count of readmissions on a weekly basis and over time can assess which interventions are effective and use those findings to implement or revise processes to improve outcomes.<sup>93</sup>

#### Facilitate use of Community Health Workers (CHWs)

While research has shown the promise of community health workers to improve health outcomes and reduce disparities, there are significant barriers to expanding utilization of these workers. In most states, including Illinois, CHWs are not certified and their services are not billable by Medicare or Medicaid. Without a standardized system for certifying and paying CHWs, it is difficult for health care providers or community organizations to employ CHWs and for researchers to monitor and evaluate best practices for CHW-related interventions. CHWs could have a greater role in transitional care if these barriers were removed by instituting certification and reimbursement policies.

CHWs may also be especially well-suited to preventing the initial hospitalization by helping individuals access primary and preventive care, manage chronic conditions, and address social determinants of health.

#### **Lessons for Funders**

Funders such as state agencies, the federal Centers for Medicare and Medicaid Services, community foundations, and philanthropic organizations are tasked with supporting initiatives to improve the health of those that otherwise may fall through the cracks. Findings presented in this paper suggest that funded programs should utilize evidence-based and other best practices, such as culturally tailored education. Institutions in need may not be able to afford the prohibitive cost of resource-intensive programs, so funders should consider supporting such institutions in their training and staff time.

#### **VI. Conclusion**

As providers, health systems, advocates, and policy makers continue to develop methods to provide comprehensive, coordinated care and meet patient’s needs, it is imperative to pay attention to the disparities that exist in negative health outcomes and related costs with regard to transitional care. Although the focus is currently on 30-day hospital readmission rates due to the ACA, many factors are important to address in a patient’s transition from hospital to home. While many best practices have emerged in approaches to reduce the disparities in particular health outcomes, further research is

needed on the specific techniques and on how to incorporate the approaches into transitional care. Moreover, if we are to have significant impact toward reaching the ACA's triple aim, we must remain focused on improving the unequal conditions that lead certain populations, health systems, and communities to adversely experience health disparities not just in transitional care outcomes, but in health outcomes in general.

**Appendix****Figure 3. Readmission penalties for hospitals above and below the median proportion of Hispanic patients at Chicago-area hospitals (FY 2015 Final Rule)**

	<b>Number of Hospitals with Medicare Readmission Penalty Data (n=68)</b>	<b>Average readmission penalty</b>	<b>Hospitals with readmission penalty higher than Chicago-area median</b>	<b>% Hospitals with penalty higher than median</b>
<b>Hospitals with higher than Chicago-area mean Hispanic patients</b>	23	0.55%	8	35%
<b>Hospitals with lower than Chicago-area mean Hispanic patients</b>	45	0.79%	26	58%

Source: 2013 Illinois Department of Public Health Hospital Questionnaires and FY2015 IPPS Hospital Readmissions Reduction Program Supplemental Data File<sup>94</sup>

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