Patient and Provider Perceptions of the Preventability of Hospital Readmissions

By

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Abstract

Readmissions are a costly, burdensome and potentially preventable occurrence in the health care system. In the renewed national focus on the cost and quality of health care, readmissions have been a major target for improvement. However, the viewpoints of patients and health care providers have frequently been omitted from these discussions.

This paper begins with a literature review of the existing research evaluating the perceptions of patients and health care providers on the root causes behind readmissions, as well as how preventable they actually are. The review includes six studies, with three rated as good quality, one as fair, and two as poor quality. The evidence suggests that both patients and providers see medical problems and medications as contributors to readmissions. There is weaker evidence to support that patients and providers find other factors important in readmissions, but those include nonadherence, knowledge deficit, communication difficulties, mental health concerns and insufficient professional help.

We then conducted a cross sectional study consisting of provider chart reviews (n=213) and patient interviews (n=23) on all readmissions to the UNC Hospitalist Service over a six month span. We compared the percentage of providers versus patients who felt the readmission was preventable, and explored the factors to which each group attributed the readmission. Providers stated that 29.5% of the readmissions were preventable, compared to only 13.0% of patients. Key contributing factors differed for providers and patients. Providers cited medical problems in 45% of readmissions, pain (24%), follow-up problems (22%), substance abuse (20%) and nonadherence (17%). Patients felt nothing could be done in 35% of readmissions, but also cited medical problems (35%), incomplete diagnosis or treatment (22%), medication issues (17%), and system concerns (13%) as contributors to readmissions. These data suggest that patients and providers view the issue of readmissions differently, and highlight potential areas for improvement.
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Systematic Review on Perceptions of Readmissions

Abstract:

Readmissions are a major target for cost and quality improvement within the US health care system. Recent policy changes have driven an increased interest and research focus on readmissions, particularly interventions to reduce the frequency of readmissions. However, very little research has sought to understand the perceptions that health care providers and patients have regarding hospital readmissions, what the root causes are, and how preventable they may be. This literature review seeks to systematically explore and summarize the research on this topic.

The final review includes only six studies, indicating the lack of research on this topic. Three studies were rated as good quality, one was of fair quality, and two were poor quality. The available evidence suggests that both patients and providers see medical problems and medication issues as contributors to readmissions. There is weaker evidence to support that patients and providers find other factors important in readmissions, but those include nonadherence, knowledge deficit, communication difficulties, mental health concerns and insufficient professional help. This literature review offers some insight into the viewpoints of patients and providers on the issue of hospital readmission.
Introduction:

Despite spending more money on health care than any other country, the US falls short of providing consistently high quality care.\(^1\) While efforts are being directed at reducing cost and improving quality across the field, hospital readmissions have become an area of particular focus. A hospital readmission is defined as a return to the hospital within 30 days after a discharge.\(^2\) Readmissions are frequent and expensive, and many of them may be averted with proper follow up and disease management. Estimates range widely as to the percentage of readmissions that are preventable, from 5% to 79%,\(^3\) making it difficult to know how much cost savings and quality improvement are actually possible.\(^4,5\) Nonetheless, as political pressure has mounted to curb costs and improve quality of care, the Centers for Medicare and Medicaid Services (CMS) have instituted polices to penalize hospitals with a high rate of readmissions.\(^2\) This decision reflects the value placed on prevention of high cost hospitalizations, with the assumption that hospitals will be able to effectively reduce them.

Since the implementation of these penalties, there have already been benefits as a result of the added focus on readmissions. Strategies have been developed to aid early identification of patients at high risk for readmission\(^6\) and improve discharge planning. Early studies have shown that the use of scoring systems for high risk patients or of multimodal treatment plans can be effective in reducing readmissions.\(^6,8\)

Much research has focused on the efficacy of programs to reduce readmissions. However, little research has been conducted on the perceptions of patients and health care providers regarding readmissions. Such research would be valuable to inform whether physicians and patients see readmissions as preventable, and if they share similar perspectives or dramatically differ. Qualitative data on patient and provider perceptions may help evaluate whether existing
strategies for readmission prevention are feasible, or if a broader strategy will be necessary for meaningful reduction in these costly repeat hospitalizations. Such research is needed to explore the root causes of readmissions and evaluate what proportion of those drivers are within the health care system, and how many reflect underlying social inequalities, access to care, or mental illness. The purpose of this literature review is to explore the existing research on patient and provider perceptions of readmissions, their preventability, and their root causes.

Methods:

Search Strategy

In order to identify all relevant articles regarding patient and provider perceptions of readmissions, we used a systematic approach to search PubMed. We used the key words: perceptions, perspectives or attitudes, along with the MeSH heading “Patient Readmission.” We then reviewed the titles and abstracts to select articles for possible inclusion. These articles were then subjected to full text review for inclusion or exclusion determination. Additional articles were identified by hand searching the bibliographies of the most relevant articles. This process of article selection and exclusion was performed by a single reviewer (JS).

Article Inclusion Criteria

We were most interested in articles reporting on an adult, general medicine population, perceptions of whether or not readmissions were preventable, and what factors accelerated or delayed a return to the hospital. To this aim, we excluded articles focusing on mental illness, pediatric patient populations, postpartum readmissions, or perceptions of clinics. Inclusion criteria were fairly broad, without restriction to the type of study, year of publication, or country of origin. However, we only included original research articles that specifically described
factors or causes related to readmissions from the perspective of patients or health care providers. Additionally, studies had to be available in English, and accessible through the subscriptions of our large academic institution.

Data Abstraction

In order to provide quantitative assessment, perception data from the included studies were abstracted into broad categories of contributing factors to readmission. These categories were based on themes identified in the literature. Data were abstracted into separate categories for clinicians and patients. Comparisons were then made between patients and physicians, and what factors were identified by both, or either one alone.

Quality Assessment

Studies were assessed for risk of bias (low, medium or high), based on criteria to systematically evaluate selection bias, measurement bias, and confounding. Precision and strength of findings were also considered, along with consistency across studies, in the final synthesis of available evidence.

Results:

The original Pubmed search strategy yielded 108 titles. After title and abstract review, the list was narrowed to 21 relevant articles. Full text review and inclusion of additional studies from the bibliographies of relevant articles brought the final total to six (6) articles for inclusion in the final review.9-14

The six included articles included 952 study participants, with 519 patients, 222 nurses, 195 physicians, and 16 patient records incorporating the perspectives of multiple health
professionals. All six studies were cross sectional designs. Four studies included qualitative patient interviews, two had nurse interviews, one included a survey of home care nurses, one added physician interviews, and one was based on chart review of notes from multiple health professionals. Some studies used multiple techniques, causing the sum of those tallies to exceed six. The majority of the literature focused on patients with heart failure, as this common condition has been a particular target for reduction in readmissions.

The studies ranged in quality, with three studies rated as good quality, one rated as fair, and two rated as poor quality (Table 1). The poor quality studies had significant concerns in terms of the validity and reliability of measures, as well as confounding from bias of the investigators. The fair quality study did not sufficiently describe the selection methods, and also had some concerns in the measures that were used. The good quality studies featured thorough descriptions of methodology, appropriate selection of study populations, good measures, and adequate external validity.

Not all studies evaluated the same study question regarding what factors contributed to readmissions, but each added information on physician and patient perspectives on readmissions. Hodges explored issues regarding medication adherence and support at home for disease management in older patients with heart failure. Horwitz, et al, evaluated the quality of discharge practices and patient understanding at a major academic medical center. Annema, Romagnoli, Ghali, and Happ all directly studied what factors contributed to readmissions.

Factors contributing to readmission:

The six studies identified a range of contributing factors to readmission. All studies that directly addressed that question (Annema, Romagnoli, Ghali, and Happ) found that medical
problems were a major contributor to readmissions. In the study by Annema, et al, physicians reported that heart failure contributed in 37% of readmissions, and other medical problems contributed in 38%. Patients reported that heart failure contributed in 40% of readmissions, and other medical problems in 37%. A much older study by Ghali found uncontrolled hypertension contributed in 43.6% of heart failure readmissions in a disadvantaged minority population in Chicago. They also found that cardiac arrhythmias contributed in 28.7% of readmissions. Happ, et al, found that heart failure was the primary diagnosis in 70% of their 13 readmissions, with a cerebrovascular accident, chronic obstructive pulmonary disease and a fall comprising the rest. In Romagnoli’s research surveying home care nurses about post-discharge problems, 51.3% of respondents stated that progression of disease or condition was a problem, 50.4% that disease severity was a problem, and 29.4% identified symptoms of a worsening condition as a problem. The literature is consistent in identifying medical problems as a major contributor to hospital readmission.

Nonadherence was another frequently discussed contributor to readmission. Annema, et al, found that nonadherence to diet, medication or fluid restrictions contributed in 13 to 26% of readmissions, based on patient and physician response, respectively. The research physicians determining contributory factors in the study published by Ghali found nonadherence to medications, diet or both to be a factor 64.4% of the time. The study by Happ also identified nonadherence as one of three primary themes in their analysis of clinical notes in the medical record on readmitted patients. On the other hand, Hodges’s research found that 80% of patients “rarely” forgot to take their medications. The participants were fairly well educated, with 63.3% reporting some college education or greater, and the data was gathered by patient self report, with no attempt to verify the response. Thus, their patient population may differ from
a general US patient population. Despite some disagreement in the available literature, nonadherence does appear to be another contributing factor towards readmission.

Medication problems were consistently identified across studies. Annema, et al, found that a suboptimal medication regimen contributed in 7 to 20% of readmissions, based on patient and physician responses. Ghali found that inadequate therapy contributed in 16.8% of readmissions. Happ’s descriptive study identified medication supply as a primary contributor to readmissions. Romagnoli identified a variety of medication issues relating to readmissions, including medication reconciliation, side effects, cost, and poor understanding of how, when and why to take medications. Participants also highlighted patient confusion regarding brand versus generic medications, and the risks of nonadherence. While there are a range of concerns under the broad category of medication problems, issues with pharmaceuticals are a consistent contributor across studies.

Two of the six studies noted knowledge deficit as an important factor. Annema found that 12% of patients and 14% of providers felt that a lack of knowledge contributed to the readmission. Horwitz evaluated post-discharge patient understanding, and found that only 59.6% of patients could accurately describe their discharge diagnosis. They also noted that one quarter (26.3%) of discharge instructions failed to use lay language, contributing to this knowledge deficit surrounding diagnosis and disease management.

Similarly, two studies emphasized communication problems as a concern. Horwitz, as above, pointed to the poor discharge instructions in 26.3% of cases as an example of poor communication. Romagnoli fleshed these concerns out more broadly. In her study, home care nurses identified miscommunication, information overload, poor communication of follow up
instructions, and conflicting information from various health care providers. Each of these are individual aspects to the broader issue of poor communication contributing to readmission.

**Emotional and mental health concerns** were identified in three studies. In the study by Annema, et al, these were grouped into a miscellaneous category by the authors. These were cited by 16% of patients and 26% of physicians, and they are summarized as involving pain, anxiety, insecurity, depression, substance abuse and cognitive disorders. Ghali, et al, also broadly identified “emotional stress” as a contributor in 6.9% of readmissions. They described this emotional stress as “exposure to significant psychological stress just prior to hospital admission.” Happ described “poor general health behaviors,” in her study, which included substance abuse, as a driver of readmission. These are ill defined categories by the investigators, but do underscore the presence of emotional and mental health issues contributing to rehospitalization.

Two studies identified **insufficient professional help** as a concern. Romagnoli described issues with non-medication care, treatment or safety, including wound care, home safety and diet. Annema also identified these concerns by 2% of physicians and 7% of patients.

A number of other miscellaneous factors were identified by one study apiece. Annema found that a **delay in seeking care** occurred in a number of cases, identified by 8% of physicians and 18% of heart failure nurses. Romagnoli identified **functional limitations** as a contributor. These functional limitations were further described as problems with understanding limitations, the role of home care nursing, and underestimates of needs. Happ pointed broadly to poor general health behaviors, including smoking, substance abuse and a history of nonadherence. A few studies (Annema, Ghali) mentioned climate related issues, such as extreme heat and cold.
Factors that help prevent readmissions

Two studies evaluated what factors might prevent readmissions. Annema, et al, directly asked health care providers and patients what could have prevented the rehospitalization. One third (33%) of patients identified better adherence as a prevention strategy, as did 24% of cardiologists. Caregivers emphasized a need for more professional help, with 35% endorsing this strategy. One quarter (24%) of cardiologists agreed, as did 13% of patients, suggesting that the need for more professional help may be of higher value to caregivers than patients themselves. Adequate discharge planning was mentioned by 12% of physicians and 13% of patients, as was improved advising and counseling. Seeking help earlier would have helped in 13% of readmissions according to patients, and 6%, according to physicians. Notably, 19% of nurses endorsed this strategy. From this study, improved medication adherence, seeking care earlier, and more professional help emerged as the strongest potential preventive interventions, with adequate discharge planning and improved advising and counseling also garnering some support.

Happ also identified two themes as preventive factors for rehospitalization. They highlighted supportive friends and family, as well as individual motivation. However, this study was more focused on identifying baseline differences between patients who were readmitted and those who were not, rather than formulating interventions to prevent rehospitalization. Nonetheless, family support and individual motivation were noted as inherent preventive factors.

Preventability, agreement between patients and providers
Only one study investigated these questions directly (Annema, et al). The investigators found that cardiologists thought that 23% of the readmissions were preventable, while patients said 24% were preventable. This finding suggests some agreement between patients and providers. However, in terms of agreement about the factors related to readmission, the results were quite different. Patients and caregivers agreed 40% of the time, while cardiologists and nurses agreed 59% of the time, but patients and any health care provider only concurred 34% of the time. These results imply uncertain agreement between patients and providers surrounding readmissions.

**Discussion:**

Despite a thorough literature review, only six articles offered insight into the perspectives of patients and providers on hospital readmissions. Of these six, only three received a quality rating of good, indicating the lack of high quality research in this topic. Thus, any conclusions are limited by the paucity of data, and the variable quality of what is available.

Nonetheless, these studies do offer some insight into patient and provider perspectives on readmissions. The literature offers good evidence that both patients and providers agree on medical problems and medication problems as factors contributing to readmissions. There is also good evidence that providers see nonadherence as another critical factor, though fair evidence suggests patients self-report good adherence when directly asked. There is fair evidence that providers and patients consider knowledge deficit, communication difficulties, mental health concerns, and insufficient professional help as additional contributors to readmissions.

Weak evidence suggests that there are a number of preventive factors for readmission, including improved adherence, early presentation for care, and additional professional help.
There are also varied results in the literature about provider and patient agreement around preventability and causes of readmissions, some suggesting concurrence, and others supporting very different perspectives.

Overall, this assessment of the literature did not aim to establish the core causes of hospital readmissions, but instead, sought to offer some insight into how patients and providers look at this critical issue. In this regard, it gives a valuable perspective of some of the causes that each see as important to rehospitalization. This review also underscores the lack of literature on the perspectives of patients and providers on readmissions. Future research should explore this issue, and include the views of the individuals “on the front lines” as hospitals continue to decrease readmissions.
References:

6. Hasan OM, DO; Shaykevich, SA; Bell, CM; Kaboli, PJ; Auerbach, AD; Wetterneck, TB; Arora, VM; Zhang, J; Schnipper, JL Hospital readmission in general medicine patients: a prediction model. Journal of general internal medicine. Mar 2010;25(3):211-219.
Figure 1. Study flow diagram

108 articles identified

87 articles excluded by title and abstract review

21 full text articles assessed for eligibility

15 articles excluded by full text review

6 articles included in final analysis
## Table 1. Quality Assessment of Included Studies

<table>
<thead>
<tr>
<th>Study Author</th>
<th>Selection Bias</th>
<th>Measurement Bias</th>
<th>Confounding</th>
<th>Internal Validity</th>
<th>External Validity</th>
<th>Overall Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annema</td>
<td>medium: drawn from multicenter study in Netherlands, hospitalized for HF; (determined by end point committee), interviewed a subset of those, but not clear how they were chosen</td>
<td>low: qualitative interviews, with simple standardized questions, responses in the patients own words</td>
<td>low: not clear how they chose who was interviewed, but no significant differences between interviewed pts and all patients</td>
<td>good: adequate patient selection, good measures, good content analysis approach</td>
<td>fair: dutch population, only HF pts, and only those readmitted for HF specifically</td>
<td>good</td>
</tr>
<tr>
<td>Hodges</td>
<td>high: recruitment methods not described at all</td>
<td>medium: PRO measures clearly defined, appropriate to explore HRQOL aim of the study. However, the interviews are not described, thus unclear if standardized</td>
<td>medium: as recruitment is unclear, it is uncertain what factors could influence the results</td>
<td>fair: limited by scarce description of methods. Measures fair, but selection unclear</td>
<td>fair: demographic data from Table 1 suggest a generalizable US population, but selection method again casts doubt onto who this population represents</td>
<td>fair also, focus is more on HR-QOL, thus limited relevance to topic</td>
</tr>
<tr>
<td>Horwitz</td>
<td>low: drawn from prospective observational cohort of patients &gt;65 yo discharged from Yale, identification and recruitment clearly explained, with appropriate inclusion/exclusion criteria</td>
<td>low: medical record review by experienced abstractors and a 50 question interview described in depth. Used self report and confirmation from chart</td>
<td>medium: table 1 demonstrates a well educated population, which may bias results towards better patient understanding</td>
<td>good: good subjects, measures, thorough description of methods</td>
<td>fair: applicable mostly to older patients at academic medical centers, as each have unique concerns</td>
<td>good</td>
</tr>
<tr>
<td>Romagnoli</td>
<td>low: recruited home care nurses from major hospital system via email with few exclusion criteria</td>
<td>low: used nominal group technique to determine top responses, with consistent language for questions</td>
<td>low: no obvious confounders</td>
<td>good: appropriate sample, good measures, thorough analytic approach</td>
<td>fair: specific to communicatio n issues and elderly patients post discharge</td>
<td>good</td>
</tr>
<tr>
<td>Ghali</td>
<td>low: included all patients admitted with HF over 10 week period at 1 hospital, based on explicit inclusion criteria</td>
<td>high: medical chart review seems okay, but interview is not standardized or described. Categorization of responses was done entirely by the investigators’ opinion of what contributed.</td>
<td>high: investigators bias is the most significant confounder which can heavily influence results</td>
<td>poor: as before, results appear to be heavily influenced by investigator bias, thus threatening any validity of the findings</td>
<td>fair: describes a minority, inner city population with HF at a single hospital. No demographic Table 1 to offer comparison to</td>
<td>poor</td>
</tr>
</tbody>
</table>
Attempts made to standardize, but many are inadequate

| Happ | high: few patients in study, ‘purposely’ selected from a larger study group without mention to how they were chosen. Eight non-readmitted patients were matched based on time with an advanced practice nurse (APN) | medium: combined unspecified study questionnaires, interviews, medical record reviews and nurse logs. Not much description of how these data were aggregated to draw conclusions | high: the perspective of the care provider, esp the APN, heavily confounds these results. Some conclusions are drawn from statements of opinion by APNs, making it difficult to assess their accuracy | poor: high confounding from provider bias, tiny sample size with unclear selection methods, and unreliable measures threaten the findings | poor: very small sample size prevents generalization. Methodology also too unreliable to apply to broader populations | poor |

*Grading indicates the risk of bias, and is on a three point scale; low, medium or high. Internal validity, external validity and overall scores indicate the quality of that measure, and are rated as poor, fair or good. Additional description is offered to clarify the quality assessment.*
<table>
<thead>
<tr>
<th>Study</th>
<th>Theme</th>
<th>Sample Population</th>
<th>Study Design</th>
<th>Results</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Annema  | evaluate reasons for readmission from perspective of HF nurses, cardiologists, patients and family members | 173 patients readmitted for HF, drawn from 1023 patients included in a multicenter study on counseling in HF conducted in the Netherlands | cross sectional descriptive study, with matched qualitative interviews | n=94 cardiologists (C), n=103 HF nurses (N), n=108 patients (P), n=76 caregivers (CG)  
**Contributors to readmission:**  
*only worse HF* = 37% C, 35% N, 40% P, 55% CG  
*suboptimal meds* = 20%, 19%, 15%, 7%  
*knowledge deficit* = 14%, 12%, 0%, 0%  
*nonadherence* = 14%, 12%, 0%, 0%  
*nonadherence* = 14%, 12%, 25%, 26%  
**Interventions to prevent:**  
*improve adherence* = 24%, 23%, 33%, 18%  
↑ *professional help* = 24%, 15%, 13%, 6%  
*advising/counseling* = 12%, 19%, 13%, 0%  
**Preventability:**  
C = 23%, N = 31%, P = 24%, CG = 29%  
Agreement on preventability:  
P or CG and C or N = 34%  | this study evaluated a topic most similar to the aim of this literature review |
| Hodges  | explore individual perceptions of quality of life and readmissions in patients with HF                          | 41 patients over 60 years old with HF, living in San Antonio, TX                   | cross sectional, descriptive study involving qualitative interviews        | 90% had someone they could depend on  
80% reported rarely forgot to take meds                                                                                                           | other findings related to HRQOL, not included in this review due to lack of relevance         |
| Horwitz | evaluate the quality of discharge practices and patient understanding                                       | 377 patients over 65 years of age, discharged after hospitalization for HF, pneumonia or MI, from an academic medical center (Yale) | prospective, observationa l cohort with qualitative interviews            | 95.6% pts reported understanding d/c diagnosis  
59.6% could accurately describe it  
26.3% of d/c instructions did not use lay language  
32.6% of pts discharged with scheduled follow up –  
43.9% of whom could accurately recall details of it                                                                                         |                                                                                  |
| Romagnoli | understanding home care nurses perceptions of post discharge information needs and communicatio n problems | 17 nurses recruited from UMPC (Pittsburgh) for initial interviews, 220 nurses completed the survey | cross sectional, descriptive study, using nominal group technique for survey development | Post-D/C info needs/issues:  
medications (interactions, cost, side effects, how/when to take)  
disease/condition (symptoms, progression, severity)  
non-medication care (wound care, home safety, diet)  
functional limitations communication issues  
Survey Results:  
most frequently cited concerns were: cost of drugs (67%), understanding home care nursing role (63%), brand vs generic confusion (56%), reason for taking drug (51%), disease/condition progression (51%)  |                                                                                  |
| Ghali   | explore precipitating factors to admission for HF                                                             | 101 patients w HF at inner city Cook County Hospital (Chicago)                    | cross sectional, descriptive study                                        | precipitating factors in HF admissions:  
lack of compliance – 64.4%  
uncontrolled HTN – 43.6%  
environmental factors – 18.8%  
inadequate therapy – 16.8%  | published in 1988, poor quality                                                          |
| Happ | explore factors contributing to readmission in elderly pts w HF | 16 patients selected from a clinical trial evaluating a discharge planning intervention | cross sectional, descriptive | Factors Contributing to Rehospitalization: medication adherence/supply dietary nonadherence poor general health behaviors heart failure | poor quality study |

*d/c = discharge, f/u = follow up, HF = heart failure, MI = myocardial infarction, HTN = hypertension, HRQOL = health related quality of life*
Patient and Provider Perceptions of the Preventability of Hospital Readmissions

Abstract:

Amidst increased national attention on the cost and quality of health care, 30-day hospital readmissions have become a major target for improvement. Despite an increase in research aimed at characterization and prevention of readmissions, few studies have focused on the perceptions of patients and health care providers. We conducted a cross sectional study consisting of chart reviews and qualitative interviews on patients readmitted to the UNC Hospitalist Service over a six month span. We obtained 213 provider chart reviews and 23 patient interviews, and compared the percentage of providers versus patients who felt the readmission was preventable, as well as explored the factors to which each group attributed the readmission.

Providers stated that 29.5% of the readmissions were preventable, compared to only 13.0% of patients. Key contributing factors differed for providers and patients. Providers cited medical problems in 45% of readmissions, as well as pain (24%), follow-up problems (22%), substance abuse (20%) and nonadherence (17%). Patients felt nothing could be done in 35% of readmissions, but also cited medical problems (35%), incomplete diagnosis or treatment (22%), medication issues (17%), and system concerns (13%) as contributors to readmissions. These data suggest that patients and providers view the issue of readmissions differently, and highlight potential areas for improvement.
Introduction:

Current shifts in the national healthcare landscape have led to an increased focus on improving the quality of patient care while decreasing cost. In the hospital setting, one potential target for cost reduction and quality improvement is readmissions, as defined as a return to the hospital within 30 days of a discharge. Centers for Medicare and Medicaid Services (CMS) recently instituted financial penalties to hospitals for excess readmissions, making this a particular focus of attention. Preventing readmissions is a frequently discussed topic. However, there is a wide range of estimates as to what proportion of readmissions are preventable – from 5% to 79%. Thus it is difficult to know how much cost and quality can actually be improved. There are many benefits to the increased focus on readmissions, including improved early identification of patients at high risk for readmission, improved discharge planning, and better characterization of the most prevalent factors leading to re-hospitalization. Some small projects have been able to show a benefit of scoring systems for high-risk patients and early implementation of multimodal treatment plans to reduce readmissions. This research adds essential knowledge to the field, and enables health care systems to begin to address these costly and burdensome readmissions.

While this topic is hotly debated on the hospital and policy level, the perspectives of patients and health care providers are rarely considered. Health care providers are administering treatments, making referrals, and implementing the above mentioned programs to prevent readmissions, making their perspective a critical one to determining the success of these interventions. As patients are the ones who will ultimately manage their diseases by taking their medications, following up with primary care providers, and returning to the emergency
department if necessary, their voice is an essential part of the conversation as well. As a starting point, it is important to evaluate whether patients and providers view readmissions in the same way. To begin to understand the gaps that are hindering our ability minimize hospital readmissions, we aim to compare patients’ and providers’ perceptions of whether or not a readmission was preventable. Additionally, we will explore the factors patients and providers believe contribute to their current readmission. This qualitative comparison of patients’ perspectives with their health care providers’ perspective will add a valuable viewpoint on this pressing topic.

Methods:

Overall Design and Participants

We conducted a cross sectional study using chart audit and interviews. Participants were adult patients at the University of North Carolina (UNC) readmitted to the hospitalist service after a prior admission in the previous 30 days. Inclusion criteria consisted of all adult patients readmitted between July 2013 and July 2014. Exclusion criteria were planned readmission (ie, scheduled chemotherapy), or readmission to the hospitalist service without having been discharged from the hospital, such as patients transferred back from another service. Participants were identified through routine patient tracking as a part of the UNC Hospitals quality improvement (QI) department, which follows all patients readmitted to the UNC Hospital system. As part of a QI initiative within the hospitalist department, a list was generated of any patients discharged from the hospitalist service specifically, and was forwarded on to the program director for review.
Data Collection

The program director passed that list onto the hospitalist provider team. The attending physician or advanced practice provider who cared for the patient during that patient’s hospitalization performed a chart review using the STAAR diagnostic tool, a standardized readmission chart review form developed by the Institute of Healthcare Improvement (IHI) (Appendix). Questions included primary discharge diagnosis; primary readmission diagnosis; provider opinion of the preventability of readmission; and what reasons contributed to the readmission. We did not collect demographic data, as the study was originally intended for internal QI efforts.

A convenience sample of readmitted patients was also interviewed using a standardized form adapted from an IHI form. Questions included presence of follow up with a primary care provider, understanding of the discharge instructions, patient opinion of the preventability of readmission, and what could have been done differently to prevent the readmission. Patients were interviewed in person while they were still in the hospital whenever possible. A small number of patients were called by telephone within 30 days of their readmission to complete the qualitative interview.

Outcome Measures

The primary outcome was agreement between providers and patients about whether the readmission was preventable. This comparison was drawn from the provider response on the chart review and the patient response in the interview to the question, “In your opinion, was this readmission was preventable?” The secondary outcomes were the factors the providers and patients stated as contributing to readmission. These outcomes were drawn from the provider
chart review and patient interview, and were grouped into broader categories, including nonadherence, medication problems, access issues, and substance abuse.

Data Analysis

Analysis was performed on the provider chart review responses, and on the patient interview response data. Given the dramatically different number of responses in each category, we did not perform a kappa test for agreement, but simply calculated and compared proportions of each group who stated the readmission was preventable.

For the qualitative data drawn from the free response sections of the patient and provider surveys, data were coded into various themes. Initial categories were determined based on a review of existing literature, and included themes such as medical problems, nonadherence, delay in seeking care, and pain. A codebook was developed with specific criteria to assign codes to the data. We developed additional codes as topics emerged in the data without an appropriate code. Multiple codes could be applied to each response. The coding was performed by a single reviewer (JS). Patient and provider responses were totaled and rank-ordered for comparison.

Results:

Participant Characteristics

There were 216 readmissions for which we had response data. Three of these were planned readmissions for chemotherapy or procedural interventions, and were excluded. The final data set contained 213 provider chart review responses, and 23 patient interviews.


**Provider Survey Data**

From the survey portion of the physician chart review, we gathered some information on the readmission itself (Table 1). Over half (53.5%) of readmissions had the same diagnosis as the original admission, and 71.4% were related to the index admission. Sixty seven percent (66.8%) of patients had documented follow up upon discharge from the index admission, although only 42.5% of those were able to keep the appointment, and 21.2% were readmitted prior to the follow up appointment. A minority (12.9%) of patients received a follow up call after their initial discharge, 25.8% of which identified additional issues. For the main outcome measure, providers stated that 29.5% of the readmissions were preventable. By comparison, patients responded that only 13.0% of readmissions were preventable.

**Factors Contributing to Readmissions: Providers**

On the free response section of the chart review, providers reported what factors they believed were contributory to the readmission (Table 2). Medical problems were a frequently cited contributing factor, mentioned in 45.1% of readmissions. One provider mentioned, “This patient was incredibly complex medically,” while another noted, “Her medical comorbidities are significant and likely resulted in the readmission.”

Pain was another commonly mentioned factor, noted in 23.5% of readmissions. One patient presented with a history of present illness that read, “one day history [of] arthralgias and myalgias. She reports that these began yesterday. The joint pain is worse than the muscle pain, but she says she hurts all over and cannot localize it.”

Follow up problems were the next most frequent contributor, as 22.1% of readmissions cited this as a factor leading to rehospitalization. These problems ranged from a complete lack of
follow up, to delayed follow up, to poor coordination by the outpatient provider that could have otherwise prevented readmission. “[The] patient could have followed up with [his/her] outpatient hematologist,” wrote one provider, while another commented that the readmission could have been prevented “if this patient had any sort of follow up. [H]e had recently moved to the area, [and] never had any [primary care] or GI follow up for the recurrent diverticulitis.”

Substance abuse emerged as another contributor to readmission, mentioned in 20.2% chart reviews. A provider cited “issues of narcotic dependence / abuse” as a primary contributor in one patient, while another patient “was sober for 3 weeks and then returned to drinking after a fight,” leading to readmission for his pancreatitis.

Along with specifically mentioned substance abuse and addiction, other mental health problems were also a common contributor, in 16.0% of cases. One patient’s “associated depression and anxiety were likely contributing factors…” Another patient was readmitted for abdominal pain, but the provider wrote that “[I] think this is [due to] grief and significant depression.”

Given this burden of readmissions with a substantial contribution from mental illness and substance abuse, a theme of frustration and helplessness also emerged unexpectedly from the data. Nine percent (8.9%) of chart reviews included comments that expressed burn out or demoralization from treating this challenging patient population. One provider lamented, “there is no helping someone that is truly unwilling to help himself.” On how to prevent a readmission, another provider suggested: “Stop readmitting this patient, she is ungrateful and does not comply with treatment plans.”

Other frequently mentioned factors included nonadherence to medication or other medical recommendations (16.9%), or other medication problems not related to adherence, such
as side effects or inadequate dosing (14.1%). Nearly a sixth (15.5%) of chart reviews mentioned sickle cell disease as a factor contributing to readmissions, highlighting the unique patient population of this academic medical center in the southeastern US, as well as the challenging nature of that chronic disease. Knowledge deficits (7.5%), social and environmental concerns (7.5%), lack of support at home (7.0%), end of life issues (5.6%), access to care (5.6%) and questions about appropriate discharge placement (5.6%) all emerged as contributors to readmission as well.

Solutions to Prevent Readmissions: Providers

Within the chart reviews, many providers offered ideas about how the readmission could have been prevented (Table 3). Better follow up was the leading suggestion. Of the chart reviews that gave an answer to the question of how the readmission could have been prevented (n=178 of 213 chart reviews), follow up was mentioned in 29.8%. These responses ranged from encouraging “close follow up,” to specifically citing better outpatient specialty follow up: “Patient could have followed up with outpatient hematologist.” Others alluded to the timing of follow up visits, with one provider stating that an “earlier appointment with cardiology” would have prevented the readmission. A few cited the role of nurse follow up, care management, or phone calls as potential solutions: “This patient would benefit from a daily phone call by an oncology nurse for a while to prevent overuse of the system and to preemptively troubleshoot.”

One quarter of respondents (24.7%) saw nothing that could have been done differently: “I see nothing that could be done.” Others reflected on patients who had situations that would predispose them to readmission, without any apparent way to intervene. An elderly patient with recurrent urinary tract infections prompted her provider to state she was “unsure future
readmissions can be prevented.”

Improved communication was another frequently mentioned solution, noted in 12.9% of responses. Some were simple, citing a need for “better patient education,” while others spoke to the need for more honest discussions about what the goals of care were, particularly in end of life scenarios. One provider noted “inconsistent information being given by various clinical providers,” and suggested it could have been prevented with “clear communication with [the skilled nursing facility], and clear goals of care.”

Placement and discharge condition were also mentioned as solutions in 10.1% of responses. Mostly, providers reflected on a need for a higher level of care for patients upon discharge, either with home health or transfer to a facility: “Home health would have helped, especially [with] disease and medication management.”

Other solutions included improved mental health care (9.6%), better medication management (9.0%), need for a specific alternative therapy (8.4%), or improvements in the system as a whole (8.4%). The solutions related to medication management comprised ensuring that patients had their medications on discharge, facilitating better medication adherence, or making changes to their prescriptions that may have prevented a readmission. The system improvement solutions reflected on a need for better policies, reliable options for uninsured patients, or improved care delivery in the emergency room that might avert an impending readmission.

Patient Interview Data

When asked about their previous admission and the time between discharge and readmission, 87.0% of patients responded that they took their medications as prescribed (Table
4). Only 8.7% stated that they found their discharge instructions were confusing, and 95.7% said they had someone to contact if things got worse. Most (82.6%) felt they had proper support once they left the hospital, and 60.1% recalled receiving a follow up phone call. Of those, 71.4% were calls made by a nurse, and 28.6% were from a physician.

Follow up was one area where patients did report issues (Table 4). Only 39.1% of patients reported that they were able to follow up with their primary care physician, and even fewer, 30.4%, were able to follow up with a specialist. The timing of the follow-up visit emerged as a theme; 26.1% of patients reported not having enough time to get back to see a primary care physician, or that the appointment was scheduled too far away to help. One patient mentioned that he was “readmitted within five days,” and another said he didn’t see his primary care doctor because he “didn’t have enough time.” While in the hospital, one patient ironically noted that he had an appointment “tomorrow.”

When asked what could have been done differently to prevent the readmission, many (34.8%) patients felt that nothing would have prevented the readmission (Table 5). One patient remarked that “nothing could have been done,” and another said, “I can’t think of anything.” Another large proportion, 34.8%, attributed the readmission largely to medical problems. “Last time, it was a fall, this time, I have pneumonia,” noted one patient, while another suggested, “if we could find a cause for my elevated blood pressure,” that he might not be readmitted.

Twenty two percent (21.7%) felt that inadequate treatment or an incomplete diagnostic process contributed to their readmission. One patient commented that the medical team needs to “make sure the patient is back to baseline before discharge,” suggesting that s/he was not improved enough before being sent home. Another commented that to prevent readmissions, the medical team “need[s] to figure out why I keep having seizures.”
As with the physicians, patients expressed significant frustration with the admission-readmission cycle, noted in 21.7% of interviews. “They say it will take time to heal but I wish I didn't have to keep coming back here,” complained one patient. “I don't know what could be done, but something needs to change because I keep coming in to the hospital for the same thing,” echoed another.

Seventeen percent (17%) noted medication problems. One patient suggested that readmissions could be prevented if there were “somebody [to] help me with my medications.” Another asked that the medical team “have all of the medications ready on discharge, [as] I live far away and could not come back for them.”

Patients identified a number of other contributing factors, including concerns about the health care system (13.0%). These patients particularly honed in on wait times in the emergency room when being readmitted. “I really hate how long it takes in the Emergency Department,” said one, and another echoed, “I know one thing I hate is waiting 16 hours in the Emergency Department.” Two patients (8.7%) mentioned poor support as a contributing factor, and another 8.7% identified pain as a driver of the readmission. Follow up, cost of care, need for transplant, and communication breakdowns were cited by one patient apiece (4.3%).

Discussion:

These findings offer an interesting perspective into how clinicians and patients view readmissions. The comparison between the proportion of readmissions that clinicians and patients saw as preventable (30% vs 13%) is an informative one, and highlights the starkly different starting points from which these two groups view rehospitalization. It is also instructive that clinicians saw more opportunities to keep patients out of the hospital than do patients.
themselves. This may speak to the movement within the medical community towards coordinated care, case management, and multidisciplinary teams, which are able to engage patients on many levels to encourage disease management and avoid exacerbations that lead to hospitalizations. It may also suggest that, despite a progression towards increased patient engagement, patients may still tolerate the disjointed nature of care delivery without fully questioning burdensome events such as readmissions.

The responses from the physician chart review are informative as well. Over half of the readmissions were related to the index admission (53.5%), and nearly three quarters (71.4%) were related to the index admission – higher figures than others reported in the literature. A recent study by Bisharat found that 38% of patients were readmitted with the same primary diagnosis, and 52.4% had a related diagnosis, lower than what we found.\(^{16}\) Another study evaluating readmissions after pneumonia found that only 20% of readmissions were for the same primary diagnosis.\(^{17}\) The rate of scheduled follow up of 67% is better than some other studies have demonstrated, as Horwitz, et al, found that only 32.5% of patients were discharged from a major academic medical center with a scheduled follow up visit.\(^{11}\) However, one third of patients did not have scheduled follow up, revealing a significant gap in the post-discharge care of this patient population. The fact that less than half of those with a scheduled follow up were able to keep that appointment raises questions about other aspects of the post-discharge care process. For example, some patients reported challenges getting an appointment with their outpatient provider before they were readmitted. The median time to readmission was 12.8 days, suggesting that if these appointments are made beyond the first week after discharge, they may be of little value to prevent rehospitalization. Additionally, these low follow up rates suggest that patients do not fully comprehend the importance of that post-discharge clinic visit. Thus, there may be an
opportunity for improved communication about disease management and prevention of rehospitalization when clinicians and patients discuss follow up care.

The qualitative data from physicians and patients about contributors to readmission gives a unique insight into caring for and experiencing discharge and rehospitalization. Unsurprisingly, medical problems were the most frequently identified in both groups, and both patients and providers highlighted that often nothing could be done about these cases. Chronic diseases such as congestive heart failure, chronic obstructive pulmonary disease and, in this population, sickle cell disease, have a relapsing-remitting pattern that makes hospitalizations difficult to completely prevent. Yet the providers also honed in on one major potential solution – improved follow up. Unfortunately, the follow up process also serves as a barrier in our current health care system. Providers cited concerns about follow up as one of their leading contributors to readmission, but it also topped their list of potential solutions. Patients did not identify follow up as a major concern for them, but they did express concerns about adequate treatment and diagnoses. Thus in a way, patients also identified concerns that could be alleviated with better follow up. While some cases may have required inpatient management, a great deal of diagnostic processes and treatment modification can take place in the outpatient setting, without exposing patients to the cost and risk of hospitalization. Timely, thorough follow up represents a potentially critical intervention for patients in the post discharge period, and may serve to address both provider and patient concerns.

Beyond follow up, many other issues emerged, without much provider and patient agreement. Providers highlighted mental illness (20%), substance abuse (16%) and nonadherence (17%) as major drivers of rehospitalization. These findings are consistent with existing literature, and demonstrate the challenges of a patient population with frequent readmissions. The
prevalence of these three as contributing factors also casts light onto some possible reasons behind the slow progress in preventing readmissions. The medicine service of an acute care hospital is designed to address medical diagnoses, such as heart attacks and exacerbations of pulmonary disease. However, it is not structured to deliver high quality mental health care, substance abuse resources, or engage patients in the process of disease management and education. These are necessary shortcomings, given the expense of hospitalization and the acuity of patients admitted to the wards, but our findings suggest that frequently readmitted patients represent a population with different needs. Readmissions seem to be marked by the issues that are not well managed by an inpatient hospital stay, including mental health, addiction, and potentially low health literacy and poor disease management. This awareness may help to interpret the comments reflecting frustration from providers and patients alike (9% and 22%, respectively). Hospital based health care providers are being asked to practice outside of their area of expertise, to care for patients with a substantial burden of mental illness and addiction, when their training is primarily aimed at acute disease management. Alternatively, patients are not receiving the care that addresses their underlying needs, whether those are longitudinal mental health care, holistic addiction treatment, or motivational interviewing to engage them in their chronic disease management. However, they are within a health care delivery system that tends to escalate care when there are unmet needs, leading to frequent readmissions that may not serve to improve their health status.

Medication concerns emerged as a theme as well. Aside from nonadherence, 14% of providers and 17% of patients identified issues with their medication regimen. Side effects, incorrect dosing, and confusion about medication changes contributed to these readmissions. Outpatient follow up, as addressed above, may facilitate resolution of some of these concerns,
through early identification of misunderstandings, medication interactions and insufficient treatment responses. These medication issues also highlight the benefit of multidisciplinary medical teams. Pharmacists can play a critical role in prospectively identifying medication errors or interactions, as well as in recognizing medication side effects and giving patient education. Nurses are often the first to see medication issues, whether those are allergic reactions or side effects, and can triage those issues to an appropriate resolution. The follow up phone call, only made in 13% of readmissions, can also help to identify any post-discharge issues, as they did 26% of the time in our sample. Our findings support the notion of a follow up call as a low cost intervention that may intervene to prevent readmissions from side effects, dosing or other easily addressed concerns.

Lastly, our sample was unique in its frequency of patients with sickle cell anemia, and may offer some insight into caring for this patient population. The high proportion of readmissions with sickle cell as a contributing factor (15.5%) underscores the unique nature of this academic medical center in the southeastern US. But within those cases, many issues with substance abuse emerged, as well as helplessness and frustration by patients and providers alike. Given the chronic and severe nature of sickle cell pain crises, analgesia is an essential part of high quality care. However, the addictive nature of narcotic therapies can trigger unwanted consequences. Appropriate pain management may also expose patients to a high risk of substance dependence, which may lead to increased narcotic seeking behavior. Hospital admissions based on ER visits for pain can test the patience of providers, who may find that they are operating outside of their comfort zone, as well as patients, who find themselves in the vicious cycle of addiction, and yet feel the therapeutic alliance degrading around them. One provider offered a solution in the form of a question, suggesting a “comprehensive project for
high impact sicklers?” Such an intervention is no small feat, but may be the only approach to address the litany of challenges embedded in caring for patients with substantial pain and addiction issues woven so tightly together.

Clearly, there are limitations to this study. As a convenience sample of patients, they may have represented either the easiest patients to chart review and interview, or alternatively, the most interesting cases, stimulating further investigation. The lack of demographic information is a notable shortcoming, and prevents extrapolation of these findings to other populations. Given that this was an unfunded quality improvement effort conducted on top of the regular workload of the providers, the sample size of patient interviews is small. This leaves open the possibility of selection bias, as noted above, and also that some patient perspectives were not captured. Additionally, we were unable to interview all the patients on whom chart reviews were conducted. This means there may be underlying differences in the groups at baseline which influence the results, rather than the results demonstrating truly different perspectives between patients and providers. We did not perform statistical tests, as the aim of this study was to evaluate the perspectives of patients and providers, rather than draw any firm conclusions from the data. Lastly, the sample was drawn from a generalist service within a subspecialty based teaching hospital, thus it is not reflective of a typical hospital based patient population.

Conclusion

These data give a valuable insight into the perspectives of patients and providers on readmissions. They offer a glimpse into the different starting points of these groups when approaching the complex topic of readmissions. They illustrate the specific challenges inherent in caring for a frequently readmitted population of patients, and the obstacles faced by patients
who are often bounced in and out of the hospital. This study supports the notion that readmissions are consequence of a health care system with inadequate primary care and outpatient follow up, and that the hospital bears the brunt of the lack of mental health and addiction resources in the community.

In addition to exploring the factors that contribute to readmissions in a major academic medical center, these findings offer some guidance towards potential solutions. Improving post-discharge follow up processes through timely scheduling, phone calls, and multidisciplinary care, offers great promise for preventing future readmissions. Increased access to mental health and substance abuse resources may also help divert patients towards the services they need, while simultaneously keeping them out of the hospital. Future research should evaluate the efficacy and acceptability of programs to increase post-discharge follow up, or explore interventions to enhance mental health and addiction services within the hospital or in the immediate post-discharge period. These findings offer greater breadth to our perspective on readmissions, and remind us to consider the viewpoints of the patients and providers who are so intimately involved with each hospital discharge and readmission.
Works Cited:

6. Hasan OM, DO; Shaykevich, SA; Bell, CM; Kaboli, PJ; Auerbach, AD; Wetterneck, TB; Arora, VM; Zhang, J; Schnipper, JL Hospital readmission in general medicine patients: a prediction model. Journal of general internal medicine. Mar 2010;25(3):211-219.
<table>
<thead>
<tr>
<th>Question</th>
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<tbody>
<tr>
<td>Was this readmission preventable?</td>
<td>29.5</td>
</tr>
<tr>
<td>Diagnosis: same as index admission?</td>
<td>53.5</td>
</tr>
<tr>
<td>Diagnosis: related to index admission?</td>
<td>71.4</td>
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<td>Did the patient have documented follow up on discharge?</td>
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</tr>
<tr>
<td>If yes, did the patient keep the appointment?</td>
<td>42.5</td>
</tr>
<tr>
<td>Did social conditions contribute?</td>
<td>31.3</td>
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<tr>
<td>Did mental illness contribute?</td>
<td>22.6</td>
</tr>
<tr>
<td>Did the patient receive a follow up phone call?</td>
<td>12.9</td>
</tr>
<tr>
<td>If yes, were additional issues identified?</td>
<td>25.8</td>
</tr>
<tr>
<td>Theme</td>
<td>% Endorsed</td>
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<tr>
<td>--------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Medical Problems</td>
<td>45.1</td>
</tr>
<tr>
<td>Pain</td>
<td>23.5</td>
</tr>
<tr>
<td>Follow-up Problems</td>
<td>22.1</td>
</tr>
<tr>
<td>Substance Abuse</td>
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<tr>
<td>Nonadherence</td>
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<td>Mental Health</td>
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<td>Sickle Cell Disease</td>
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<tr>
<td>Medication Problems</td>
<td>14.1</td>
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<tr>
<td>Frustration/Helplessness</td>
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<tr>
<td>Knowledge Deficit</td>
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<td>Environmental Concerns</td>
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<td>Lack of Support</td>
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<td>End of Life Issues</td>
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<td>Access/Insurance Issues</td>
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<td>Placement/Level of Care</td>
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<tr>
<td>Potential Solution</td>
<td>% Endorsed</td>
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<td>------------------------------</td>
<td>------------</td>
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<tr>
<td>Follow up</td>
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<tr>
<td>Nothing</td>
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<td></td>
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<tr>
<td>Communication</td>
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<td>Discharge Condition</td>
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<td>Mental Health</td>
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<td>Medications</td>
<td>9.0</td>
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<tr>
<td>Different Treatment</td>
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<tr>
<td>Systems Improvement</td>
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Table 4. Patient Interview Responses

<table>
<thead>
<tr>
<th>Question</th>
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<tbody>
<tr>
<td>Was this readmission preventable?</td>
<td>13.0</td>
</tr>
<tr>
<td>Were you able to take your medications as prescribed?</td>
<td>87.0</td>
</tr>
<tr>
<td>Were your discharge instructions confusing?</td>
<td>8.7</td>
</tr>
<tr>
<td>Were you able to follow up with your primary care provider?</td>
<td>39.1</td>
</tr>
<tr>
<td>Were you able to follow up with your specialist?</td>
<td>30.4</td>
</tr>
<tr>
<td>Did you have proper support once you left the hospital?</td>
<td>82.6</td>
</tr>
<tr>
<td>Did you have someone to contact if things got worse?</td>
<td>95.7</td>
</tr>
<tr>
<td>Did you receive a follow up phone call?</td>
<td>60.1</td>
</tr>
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<td>If yes, was it from a nurse?</td>
<td>71.4</td>
</tr>
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<td>If yes, was it from a physician?</td>
<td>28.6</td>
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### Table 5. Factors Contributing to Readmission: Patients

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<tr>
<th>Theme</th>
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<th>Representative Quotation</th>
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<tbody>
<tr>
<td>Medical Problem</td>
<td>34.8</td>
<td>“If we could find a cause of my elevated [blood pressure]…”</td>
</tr>
<tr>
<td>Nothing</td>
<td>34.8</td>
<td>“Nothing could have been done.”</td>
</tr>
<tr>
<td>Inadequate Treatment or Incomplete Diagnostic Process</td>
<td>21.7</td>
<td>“They need to figure out why I keep having seizures.”</td>
</tr>
<tr>
<td>Frustration</td>
<td>21.7</td>
<td>“Something needs to change because I keep coming in to the hospital for the same thing.”</td>
</tr>
<tr>
<td>Medication Problem</td>
<td>17.4</td>
<td>“Have somebody help me with my medications.”</td>
</tr>
<tr>
<td>System Concern</td>
<td>13.0</td>
<td>“I really hate how long it takes in the Emergency Department.”</td>
</tr>
<tr>
<td>Lack of Support</td>
<td>8.7</td>
<td>“[I] just need more help at home.”</td>
</tr>
<tr>
<td>Pain</td>
<td>8.7</td>
<td>“Even though I take my meds, I can't help when my pain gets bad.”</td>
</tr>
<tr>
<td>Others: Follow up, Cost, Communication, Transplant</td>
<td>4.3 each</td>
<td>“I just need a liver transplant.”</td>
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