

ABSTRACT

The Importance of Proper Status Assignment on Medicare Observation Patients

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Observation Units are ultimately intended to give hospitals greater time to more accurately diagnose patients admitted through the Emergency Department (ED), both freeing up ED beds and avoiding unnecessary admissions. However, the changes in the way Medicare reimburses hospitals for observation versus inpatient status has created a growing number of observation cases that yield a lower reimbursement rate for many hospital systems. By assessing the length of stay and net income from Medicare patients and interviews from those working with patient status, it has been shown that Observation Units are not being run optimally as a result of misplaced status. Improving physician education and Utilization Review will increase the revenue received by the hospital.

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THE IMPORTANCE OF PROPER STATUS ASSIGNMENT ON MEDICARE
OBSERVATION PATIENTS

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TABLE OF CONTENTS

Acknowledgements	iii
Chapter One: Introduction	1
Chapter Two: Background on Literature.	2
Chapter Three: Research Methods	7
Chapter Four: Results	11
Chapter Five: Discussion	16
Chapter Six: Conclusion	20
Appendices	25
Appendix A	26
Appendix B	27
Bibliography	29

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CHAPTER ONE

Introduction

One of the biggest issues facing the field of medicine is one that is not commonly discussed- patient status as it relates to reimbursement. When an individual goes into the hospital, stays at said hospital, and receives treatment at said hospital, the majority of the population would believe that since the patient was in the hospital, they must have inpatient status. When an individual is in a clinic or receiving care out of the hospital, one might assume that the patient has outpatient status. However, this would be a gross simplification that does not apply to many areas of the healthcare industry, one of which being observation units. While the simple change of a few letters in a patient's status might seem inconsequential, the effects of these changes result in huge financial repercussions on both hospitals and patients alike. It is the goal of this paper to provide greater clarity on observation units as they relate to patient status and hospital reimbursement and devise a solution on how to optimally run these units. In order to do so, this paper both reviewed previous literature that detailed the creation and history of observation units in the United States and conducted a study at one of the largest hospital centers in North Texas. The results of these findings are presented in the paper that follows.

CHAPTER TWO

Background on Literature

First and foremost, we must define what exactly is an observation unit.

Observation Units were originally designed to help alleviate the burden on the Emergency Department. If a patient could not be safely discharged or the physician was unsure that admission was necessary, the patient could be sent to observation for further consultation. Observation Units were not intended to be utilized as a holding area for a patient waiting to be transferred to an inpatient department within the hospital. Rather, it was meant to guide physicians. Most patients today who enter Observation Units are those with generalized conditions that could be due to a variety of causes, such as chest pain, which require a more comprehensive evaluation and generally takes more than a few hours (Salvador-Kelly and Kwon 2016). In short, they are patients who have unclear diagnosis with multiple underlying conditions, requiring placement in these facilities.

Observation Units were created with many perceived benefits in mind. For example, it was found in some studies that the use of an Observation Unit allows the physician to more carefully diagnosis the patient (Asudani et al. 2017). This theoretically leads to lower admission rates and a corresponding reduction in the unnecessary use of resources (including, but not limited to, transportation, nursing, and ancillary services) in

the hospital. Since healthy and mildly ill patients are discharged, the bulk of the hospital resources can be dedicated to the severely ill patients who truly need to be admitted. Additionally, numerous journal articles praise Observation Units for decreasing the length of stay by more than a day and lowering costs by two thousand dollars per patient (Andrews 2013).

There are obvious advantages to Observation Units that benefit hospitals and patients alike, but there are still many flaws in the current system. First, giving physicians additional time to diagnose patients creates a delay in patient treatment that might be crucial for some patients (Asudani et al. 2017). Secondly, observation versus inpatient status makes a critical difference in Medicare reimbursement – even when that care provided is identical. If a patient is listed as observation, the case is treated as outpatient, resulting in no payment from Medicare Part A, and Medicare Part B pays only for the physician and outpatient services provided by the hospital (Salvador-Kelly and Kwon 2016). However, if a patient is listed as inpatient, Medicare Part A will cover the inpatient stay in addition to the payments made by Part B (Konrad 2017). Many privatized forms of insurance have also started to adopt this practice (Davis 2018). Medicare Part A and private insurance's policies of not paying for outpatient care means that a third party, the patient, must cover the cost (Jaffe 2016). By minimizing the number of patients placed in observation and the time spent there, both patients and hospitals alike benefit (Konrad 2017). Therefore, evaluating both observation efficiency and patient status are critical due to the reimbursement rates and the resulting impact on hospital revenue and the fiscal health of the institution.

It is important to note that Observation Units are a rather new phenomenon in the healthcare industry. Nearly two decades ago only a small fraction of hospitals (11%) contained designated Observation Units, with an equal percentage actively considering the implementation of this concept (Ross et al. 2013). By 2011, a new study reported that over one-third of the hospitals in the United States contained designated Observation Units (Witler et al. 2011). While the number of official Observation Units has continued to rise, so has the number of patients placed in observation and the proportion of patients assigned observation status - going up from 3% in 2006 to 25% currently (Napolitano and Saini 2014). From these statistics, we can ascertain the growing prevalence of observation within the United States as well as the increasing importance it plays in the modern healthcare system.

Observation Units initially showed great promise, especially with asthma patients and those experiencing chest pain as it led to more effective diagnoses resulting in a reduction in the length of stay and a corresponding reduction in cost for the hospital (Trommald 2000). These units have also been particularly helpful with the care of vulnerable groups such as the elderly who have a disproportionate share of symptoms such as chest pain and dizziness. Since Medicare lowers reimbursement to hospitals for excessive Emergency Department readmissions, observation units were seen as a true benefit. These units would theoretically allow for doctors to have more time to treat patients than they would otherwise in the ER, allowing them to provide better diagnosis and better treatment, reducing the likelihood that they would return to the ER. All in all, observation units had their benefits to the healthcare industry.

Though Observation Units are largely beneficial to the healthcare industry, they are not necessarily utilized optimally. For example, one study that evaluated both national data and data from the state of Georgia discovered that there is no consensus in the definition of an Observation Unit, ranging from “protocol-driven care with rooms in an officially designated location” to “discretionary care in any bed available within the hospital” (Ross et al. 2013). Those hospitals that had a designated unit with protocols were found to be the most effective in reducing the length of stay and improving the quality of care (Ross et al. 2013). However, the fact that the term Observation Units is so loosely means that there is no true way to uniformly evaluate them. Additionally, despite the fact that some articles claim that using dedicated Observation Units could lead to a reduction of cost as high as 3.1 billion dollars, others have found that this is an overly optimistic assessment (Baugh 2012). In short, we can already discover the negatives of Observation Units as they are not defined nor operating as highly as they should.

In fact, observation might not be any more beneficial than inpatient care. One study that retrospectively analyzed 7549 patients at one hospital reported that patients with nonspecific chest pain who were placed in observation did not have better outcomes or a lower cost of care when compared to those patients who were admitted to the hospital (Abbass et.al. 2014). In some cases, observation patients might not experience the same quality of care. One study, which assessed 22,962 cases in 41 different Observation Units, found that the units lacked consistency in their outcomes for patients with chest pain, suggesting that these patients may have been better served if they had been admitted immediately rather than placed in observation (Abbass 2015). Ultimately, the benefits originally associated with observation might not be as profound as once

thought. In conclusion, while Observation Units were originally designed to alleviate strain on hospitals across the U.S., they have been obscure in their efficiency.

CHAPTER THREE:

Methods

In order to assess whether observation units were being properly utilized, it was important that I evaluate both empirical and testimonial data. However, finding data for an entire hospital system, let alone the entire country, would be extremely time-consuming. Moreover, given the fact that there are rather loose requirements as to what truly defines an observation unit, it was imperative that I focus on the Observation Units of a single hospital. In this case, I decided to utilize the data that I had received during one of my summer internships. However, while I was given access to said data by my research mentor, I will be protecting the identity of the hospital out of respect for their privacy.

Hospital Perspective

The hospital in question asked me to assess their observation units as they were concerned that there might be a problem in the running of these facilities. For the sake of privacy and anonymity, the hospital will be called Hospital X. Currently, Hospital X has a very streamline system with regards to a patient's placement within the observation unit. When looking at a patient coming into the Emergency Department (ED), the patient is first treated in one of the available emergency treatment rooms where they will be viewed by triage nurses, scribes and, most importantly, the ED Physician (an Emergency Medicine Doctor). After the patient has had history taken and a formal consultation with the physician, the ED doctor will make one of two decisions. They will either send the

patient to one of the clinical decision units or contact one of the attending internal medicine doctors for further evaluation. If the patient is referred to an internist, the attending physician will assess whether the patient should be sent to the Observation Unit or admitted into the hospital. Regardless of the decision, the patient's status is then regularly reviewed by the team of nurses known as Utilization Review Nurses or URNs. These nurses continually evaluate the patient's situation and make recommendations when they feel a change might be warranted by utilizing InterQual. InterQual is an electronic system of evidence-based clinical intelligence that assesses the appropriate criteria for the medical review process which includes the proper assignment of patient status. This appears to be a rather fluid and effective way of assessing a patient's status.

However, several issues have developed within the last couple of years regarding Observation Units at Hospital X. Within the last year alone, observation utilization has increased by twenty percent. In addition, there is a disconnect in how utilization review is conducted. Medical directors and CMOs are sent emails on patients when no action or update is needed. This plethora of emails then creates a situation where the important emails suggesting a change in status are not properly elevated or differentiated and can easily be overlooked. Furthermore, when looking closely at each case, many individuals who initially qualified for inpatient status were not flagged by the UR nurses until 48 hours or more after they were placed in observation. The question then becomes twofold: First, why did the physician not immediately admit the patient, and second, why did the UR nurses not catch this sooner? Consequently, it is extremely important that Hospital X not only comprehends the negative impact that overutilization of Observation Units has had on the hospital, but also discovers patient status pathways that are more efficient.

Empirical data

Through empirical data, it can be objectively assessed whether observation is being run effectively with regards to patient status assignment. In the absence of patient outcomes, the best metrics for this are length of stay and profit margins of the hospital. Since length of stay should theoretically last for a maximum of 24 hours, it was vital for me to determine whether or not Observation Units at this particular hospital properly adhered to these criteria. Therefore, data was gathered using AllScripts for the length of stay from both the Clinical Decision Unit (CDU) and regular Observation Units from the past two years. Length of stay was then determined separately for Clinical Decision Units (those located in the emergency department) and traditional Observation Units (those found in the hospital) and then determined together. The purpose of this was to see 1) if length of stay increased or decreased over time and 2) if the average length of stay exceeded a length of longer than 24 hours.

Length of stay, however, is not the only aspect upon which observation should be measured. The relationship between cost of care and reimbursement received must also be evaluated. Analyzing the profit and loss associated with the Observation Unit enables the hospital to better assess if the unit is properly utilized. Consequently, Hospital X tracked all observation cases within the hospital over the course of six months, noting the patient's diagnosis and the department responsible for the recommendation. The net profit/loss was then calculated for each individual department and organized month by month. By assessing these factors, I hope to not only weigh the negative cost associated with Hospital X's observation facilities but also determine whether any problem

associated with the use of observation is specific to a disease or department, or if it is system-wide issue.

Testimonial evidence

In order to properly evaluate the efficiency of observation, it was important that I consider the objective, numerical data associated with length of stay and cost of care. However, it was imperative for my study that I detail the experiences of those workers who worked directly within the observation unit process. These include but are not limited to ER doctors, Case Managers, Hospitalists, Medical Directors, and Utilization Review Nurses. Thirty-minute interviews were conducted with a member of each of these groups in which they were asked what role they played in observation, if observation was being run effectively, and what were some of the obstacles to observation. Their responses were then summarized and reported in the results section of the paper.

CHAPTER FOUR:

Results

After two months of organizing the data, there were several interesting findings that were discovered based on how observation units were running sub-optimally based on length of stay, cost of care, and general consensus among employees.

Length of Stay

Table 1.1 provides a length of stay assessment for all patients placed in observation during the fiscal year of 2018 for Hospital X. While there are slight variations in the percentages from month to month, the data demonstrates a consistent trend. Each month more than fifty-five percent of Medicare patients placed in observation exceed the 24-hour maximum threshold with some months reaching nearly seventy percent. In an effort to further analyze the findings, the data for the Clinical Decision Unit (the Observation Unit specifically for the ED) were removed to determine if this is a departmental challenge or a hospital-wide problem. The results of Table 1.2 indicated that, while the numbers including the CDU's were slightly better, there does appear to be a systemic issue regarding improper use of the Observation Unit.

Medicare Observation Length of Stay for Hosnital X						
FY18	DC Less Than 24		DC Past 24 Hrs			
DC Month	Cases	Pct	Cases	Pct	Total	Avg
July	60	38.46%	96	61.54%	156	28.69
August	70	44.59%	87	55.41%	157	28.01
September	43	30.28%	99	69.72%	142	31.47
October	52	33.99%	101	66.01%	153	29.53
November	61	38.85%	96	61.15%	157	28.88
December	38	30.16%	88	69.84%	126	31.02
January	43	30.71%	97	69.29%	140	31.08
February	51	36.17%	90	63.83%	141	30.64
March	45	35.16%	83	64.84%	128	30.30
April	66	40.99%	95	59.01%	161	29.08
May	53	31.74%	114	68.26%	167	31.89
Jun	69	39.20%	107	60.80%	176	28.16
Grand Total	651	36.09%	1153	63.91%	1804	29.83

Table 1.1 Medicare observation cases by length of stay for the fiscal year of 2018.

Hospital X 23 Hr OBS excluding CDU - Medicare						
FY18	DC Less Than 24		DC at 24 Hrs or			
DC Month	Cases	Pct	Cases	Pct	Total	Avg
July	16	20.00%	64	80.00%	80	34.79
August	27	32.14%	57	67.86%	84	32.23
September	19	24.05%	60	75.95%	79	36.61
October	15	21.43%	55	78.57%	70	35.77
November	19	23.17%	63	76.83%	82	33.51
December	11	16.42%	56	83.58%	67	35.39
January	19	25.68%	55	74.32%	74	35.00
February	29	34.52%	55	65.48%	84	32.66
March	16	24.62%	49	75.38%	65	34.25
April	19	25.68%	55	74.32%	74	34.89
May	16	18.39%	71	81.61%	87	37.17
Jun	20	24.10%	63	75.90%	83	33.42
Grand Total	226	24.33%	703	75.67%	929	34.61

Table 1.2 reveals Medicare Length of Stay without including the Clinical Decision Units.

Cost of Care

Medicare patients placed in observation rather than inpatient yield a lower reimbursement rate for the hospital. Therefore, it is important to look at the costs associated with observation stays that exceed 48 hours, since these cases could potentially have been listed as inpatient given the Two-Midnight Rule adopted by Medicare (Godwin 2015). Figure 1 indicates a loss of income associated with each month that is proportional to the number of cases exceeding 48 hours in observation. Overall, there were over four hundred cases and 1.6 million dollars lost from said cases, revealing the challenges that these patients pose for Hospital X.

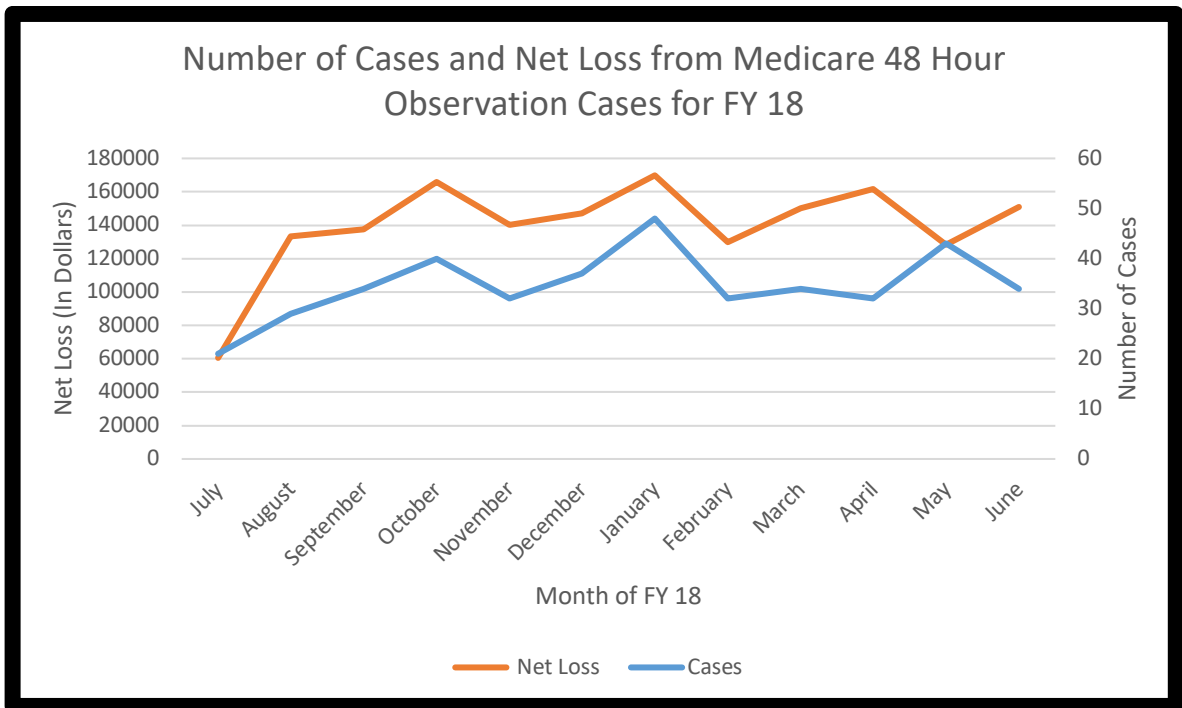


Figure 1 Medicare reimbursement for observation stays greater than 48 hours.

Interviews

Five interviews were conducted to obtain feedback on the concerns associated with the overutilization of the Observation Unit. Most of the participants agreed that there are problems, but the issue they viewed as most critical seemed to vary depending on their positions. As seen in Table 1.3, both the ED physician and the internist attributed the problem to inaccurate initial patient placement, citing the number of incidences where patients were placed in observation when they clearly should have been admitted. Through the input of the physicians, it was confirmed that a lack of understanding of the criteria by physician groups was an issue. The Utilization Review Nurses, on the other hand, faulted the AllScripts system, which fails to provide them with important functions such as a streamline communication capability that EPIC provides. The case manager also ascribed the improper utilization to Medicare and private insurance reimbursement policy which penalizes improper patient admittance thereby increasing dependence on observation out of fear.

While many different problems were mentioned regarding the overutilization of observation, there did seem to be consensus on one issue. Four out of the five healthcare workers felt there was a lack of transparency between Utilization Review Nurses and the rest of the medical staff. Whether it be a lack of communication about changes to a patient's status or the change not occurring within the first 48-hour period, the Case Manager (CM), medical director, internist, and emergency department physician all believed that the UR team was not functioning as it should be.

Responses from Hospital X Employees Regarding Observation Efficiency

	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5
What is your role in observation?	Internal Medicine Doctor	Emergency Medicine Doctor	Medical Director	Case Manager	Utilization Review Nurse
Is status assignment for observation and inpatient being run effectively?	No	No	No	No	No
In your opinion, what are the obstacles to efficiency in observation status?	<ul style="list-style-type: none"> -Fear of ramifications of giving patient wrong status -Lack of resources to help assess proper status -Lack of UR involvement 	<ul style="list-style-type: none"> -Misconceptions about patient status changes -Lack of knowledge about observation -UR department not communicating with them 	<ul style="list-style-type: none"> -physicians not understanding in-patient criteria -UR department giving raw data instead of metrics 	<ul style="list-style-type: none"> -New payment methods by Medicare and other private insurance companies -UR department not changing patient status until after 24 or even 48 hours 	<ul style="list-style-type: none"> -Allscripts lack of support.

Table 1.3 Responses of the Hospital X employees who were interviewed about their roles in observation and the barriers they have faced when status of Medicare patients was being assigned.

CHAPTER FIVE:

Discussion

The empirical data regarding reimbursement and length of stay both yielded negative findings. Given that the majority of Medicare observation cases exceeded the 24-hour maximum, it can be inferred that most of these cases should have been admitted. This information paired with the loss of income from observation cases exceeding 48 hours and the negative responses of those workers who actively participate in observation, it can be stated that status assignment for Medicare patients in observation is not operating at an optimal level.

Looking through the current literature, however, Hospital X is not the only clinical facility to find inefficiencies in its use of observation status for Medicare patients. One hospital reported that many of its observation patients remained there for 24 hours (and often past 48 hours). This showed a similar pattern to Hospital X as General or Internal Medicine constituted the majority of these cases (Sheehy et al. 2013). Another case study has found that Medicare observation was being increasingly utilized following Medicare's change to the Two-Midnight Policy, which now requires a patient to stay at the hospital for two midnights in order to qualify for inpatient status (Lind et al. 2017). This is in keeping with the general trends of the data, as the number of cases exceeding 48 hours and the net cost of the Medicare patients increased from 2017 to 2018 at this hospital alone. A third study showed that converting those Medicare cases that were two

midnights or longer from outpatient to inpatient resulted in an average increased reimbursement of \$2639 per case, and that over a third of these cases qualified for inpatient status (Sheehy et al. 2013).

So why is this rise in observation occurring? Based on the interviews, it can be deduced that there is an issue with both the physicians' understanding of observation criteria and the Utilization Review staff's ability to monitor patients and communicate with the clinician. Furthermore, it was also startling to learn that there is little to no use of technology when determining or assessing patient placement. It is important to note, however, that both the Utilization Review Nurses and the physicians recognize that there are issues and are open to improvements that lead to the proper utilization of the Observation Unit.

Physicians' understanding of observation criteria is the first step towards proper utilization of the unit, as they are the first healthcare professional to make the assessment. The fact that approximately two-thirds of all patients placed there exceeded the maximum stay indicates that physicians may have misconceptions. After interviewing the physician in the Emergency Department, it was discovered that, beyond the Two-Midnight Rule for inpatient admittance, physicians have some erroneous assumptions regarding placement protocols. For example, they believe that if a patient is improperly admitted there is no process for changing the status and the hospital will receive no compensation at all. As a result, unless they are absolutely certain that a patient will be at Hospital X for two midnights, ER doctors are more comfortable placing patients immediately into observation.

The second group of professionals with the opportunity to improve appropriate use of observation are the Utilization Review_Nurses. They are responsible for monitoring observation patients' status and notifying physicians when a change is warranted, as they are the InterQual experts. According to Utilization Review Nurse, URNs work offsite and typically assess a patient's condition against the InterQual criteria once a day. The UR nurse then contacts the physician by email either confirming the patient's current status or making a recommendation that the patient be admitted. However, the high number of cases lasting longer than 48 hours clearly indicate that either the current monitoring process is insufficient or that the communication system is ineffective. Relying on an email may be the critical link in the system, given the time-sensitive situation, and warrants an investigation. More effective means of notifying physicians when admitting a patient is justified may be needed.

Another factor that may contribute to the erroneous use of the Observation Unit is that the technology currently being utilized by the UR nurses does not support all the functions necessary and physicians have no technical support to help determine status. InterQual is a manual filled with hundreds of pages, defining the criteria that distinguish a patient who qualifies for observation from one that should be admitted. Given the sheer volume of information, it seems unreasonable to expect ED physicians to keep track of all the criteria while trying to effectively treat the vast array of maladies they see in a given day. ED physicians have many other duties that require their attention and the ability to decipher who meets InterQual should not prevent them from fulfilling their role. Essentially, there is a breakdown in the system and the direct consequence of this failure is the loss of millions of dollars in hospital revenue due to lower reimbursement rates for

patients assigned observation status. It is also evident, based on their responses, that all healthcare providers involved with observation understand that new measures must be implemented if they are to improve the process and increase the financial viability of the hospital.

However, it must be stated that there are limitations to the study conducted. First, it would have been beneficial to understand where the Medicare observation length of stay cases varied. By only looking at those cases that were less than 24 hours and those that were greater than 24 hours, there was no way to assess the general distribution of length of stay. Furthermore, not all of the cases that exceeded 48 hours qualified for a change to inpatient status. This is vital to truly clarify the number of Medicare cases given the wrong status and accurately assess the loss of income incurred by the hospital. Although these metrics are already being tracked, these additional evaluations will enable Hospital X to better comprehend where it stands regarding patient assignment in observation.

CHAPTER SIX

Conclusion and Recommendations

The incorrect placement and retention of patients in the Observation Unit can be greatly reduced by better educating physicians on proper guidelines, creating a more comprehensive review and communication process, and implementing the use of technology for both the physicians and the URNs. There are certainly traditional steps that can be taken to help physicians more effectively evaluate a patient's candidacy for the Observation Unit, and there are basic changes that can be utilized by the URNs to better identify patients who have erroneously been placed there. However, the use of technology must be explored, as it could be an effective and objective tool when analyzing a patient's placement.

Maximizing Proper Initial Status

The first step towards limiting the number of people incorrectly placed into observation resides with the physicians, who need a clear understanding regarding the dividing line that differentiates when an individual should be placed in observation versus inpatient. While some innovative ideas will be discussed in a section below, observation education and training during monthly meetings may have a significant impact. Physicians could review some of the fundamental concepts through short PowerPoint presentations or ten-minute lectures. For example, physicians could be reminded that if they can make the case for inpatient status, then the patient should be designated as such. They could also be encouraged to admit a patient if that person has already failed

outpatient care. They could discuss the idea that a patient with multiple conditions that individually do not meet InterQual criteria would qualify for admission given the complexity of their condition. In addition, by providing greater detail in the areas discussed above and reviewing case studies to enhance physician knowledge, this hospital, among others, can further educate physicians regarding the impact they can have on improving this growing problem. However, this solution only covers the initial step of giving the correct status.

The Review of the Patient Status

Utilization review nurses play the primary role in evaluating patient status once the patient has been placed in observation, as they are the InterQual experts. Given the current number of cases that exceed 48 hours in the Observation Unit, some modifications in the review process are recommended. The first change that should be considered is increasing the review process from once a day to every twelve hours. This change would not result in an increase in personnel, as it is viable to check each observation patient's status twice a day. This would increase the likelihood that an erroneous designation is caught, and the patient reclassified prior to midnight. General status emails and request for change in status emails should be clearly differentiated in the subject section of the email so that physicians can see at a glance if action is needed. While general status emails are essential because they assure physicians that the patient has been reviewed, the sheer volume of emails make it easy for an important one to be overlooked. A uniform communication system should also be created to enhance the communication between the URNs and the physicians. Currently, the URNs contact the physician by either email or phone depending on the doctor's preference. This is

problematic as there is no guarantee that a busy physician will read the email prior to the midnight deadline. Phone calls are also difficult as it may be challenging to reach a doctor when the ED is extremely busy. Ideally, the most effective way to handle this would be to have the URNs onsite so they can track down the physician and ensure the change in status. It would also provide a potential teaching opportunity. As the URN explains why the patient's status should be changed, physicians can gain a better understanding regarding what distinguishes inpatient from outpatient criteria. However, a more realistic goal would be to have one of the URNs on site at all times. This way, if a physician did not understand why another URN requested a change in patient status, they could still go to the URN on site to learn why the patient was moved. Furthermore, this URN could also attend Tier 3 meetings for the hospital and present the metrics related to patient status changes. Through these suggestions, the URN team can improve their efficiency as they monitor patient status.

Technological Implementation

Technology could also be a very effective means by which to manage the nearly 500 pages of criteria found in the InterQual manual. Physicians are the first healthcare provider to determine status, yet their primary concern is providing effective treatment for the patient not memorizing observation criteria. They are also moving from room to room, so the development of an app that could be downloaded on a mobile device may be an effective option. This app would walk them through a series of questions using the InterQual criteria thus enabling them to make better recommendations and help alleviate the concerns they currently have regarding erroneously admitting a patient. URNs also have many other duties that require their attention and the ability to decipher who meets

InterQual's definition and who does not could be greatly enhanced by the use of technology. A computer program that also utilizes InterQual criteria could be downloaded on the URN's computers allowing them quicker and more effective evaluations. This program could also serve as a management tool as it could document the day and time an evaluation took place. While no app or program will completely eliminate the need for sound human judgement, given the volume of information involved in observation status criteria, the use of technology seems prudent. This technology could be acquired by either exploring the market for commercially available software, hiring a software company to develop it, using Hospital X's IT department, or hiring software engineering/computer science interns to develop it. Before this is pursued, however, an investigation should be conducted to determine if approval is needed from the FDA or another regulatory body.

Future Perspective

While there are many metrics available for length of stay and the margins of the hospital with regards to Medicare observation patients, there are other metrics which are not being appropriately tracked nor are being shared. Utilization Review Nurses are responsible for tracking and analyzing metrics in the Observation Unit on a regular basis. Currently, they share only raw data with physicians, which by itself provides little guidance and ultimately yields little benefit to the hospital. A more effective use of the data would be to communicate the metrics in a manner that indicates to physicians the number and types of status changes that have occurred in a given month whether it be outpatient to inpatient or inpatient to outpatient (also known as a code 44). While the data for these metrics do exist, they are not analyzed as often as other metrics, such as length

of stay, even though they convey equally important information. If there are a high number of outpatient to inpatient status changes and a high number of code 44s in a given month, then it can be inferred that UR nurses are appropriately reviewing patient status. It would also indicate that physicians are not properly categorizing patients as they do not understand what determines inpatient vs. observation status. Likewise, a low number of outpatient to inpatient status changes but a comparatively high number of code 44s would suggest that physicians favor inpatient over observation, which is financially beneficial for the hospital. Since this raw data does exist, I recommend that this data be converted monthly into reports that can be used to further optimize proper utilization of the Observation Unit. By improving upon these metrics, Hospital X can assess Medicare patient status and observation stays where this project failed to do so.

APPENDICES

APPENDIX A

Length of Stay for Observation Patients						
<u>FY18</u>	<u>DC Less Than 24 Hrs</u>		<u>DC at 24 Hrs or Greater</u>			
<u>DC Month</u>	<u>Cases</u>	<u>Pct</u>	<u>Cases</u>	<u>Pct</u>	<u>Total</u>	<u>Avg LOS in Hrs</u>
<u>July</u>	<u>214</u>	<u>34.08%</u>	<u>414</u>	<u>65.92%</u>	<u>628</u>	<u>30.83</u>
<u>August</u>	<u>265</u>	<u>38.69%</u>	<u>420</u>	<u>61.31%</u>	<u>685</u>	<u>30.34</u>
<u>September</u>	<u>213</u>	<u>32.27%</u>	<u>447</u>	<u>67.73%</u>	<u>660</u>	<u>33.34</u>
<u>October</u>	<u>234</u>	<u>33.48%</u>	<u>465</u>	<u>66.52%</u>	<u>699</u>	<u>32.19</u>
<u>November</u>	<u>244</u>	<u>37.25%</u>	<u>411</u>	<u>62.75%</u>	<u>655</u>	<u>31.00</u>
<u>December</u>	<u>215</u>	<u>32.87%</u>	<u>439</u>	<u>67.13%</u>	<u>654</u>	<u>33.11</u>
<u>January</u>	<u>197</u>	<u>30.73%</u>	<u>444</u>	<u>69.27%</u>	<u>641</u>	<u>33.54</u>
<u>February</u>	<u>204</u>	<u>32.43%</u>	<u>425</u>	<u>67.57%</u>	<u>629</u>	<u>32.42</u>
<u>March</u>	<u>237</u>	<u>34.20%</u>	<u>456</u>	<u>65.80%</u>	<u>693</u>	<u>32.21</u>
<u>April</u>	<u>277</u>	<u>38.90%</u>	<u>435</u>	<u>61.10%</u>	<u>712</u>	<u>30.55</u>
<u>May</u>	<u>292</u>	<u>37.39%</u>	<u>489</u>	<u>62.61%</u>	<u>781</u>	<u>31.17</u>
<u>Grand Total</u>	<u>2592</u>	<u>34.85%</u>	<u>4845</u>	<u>65.15%</u>	<u>7437</u>	<u>31.86</u>

Table A shows the overall observation pattern for patients, not just Medicare patients.

Through Table A, one can clearly see length of stay for all patients at Hospital X who were placed in observation. With 65% of cases exceeding the theoretical maximum and the average length of stay being over 7 hours longer, observation at Hospital X, operating at an optimal capacity. However, this does include the CDUs of the Emergency Department.

APPENDIX B

Hospital X Observation Excluding Clinical Decision Units						
<u>FY18</u>	<u>DC Less Than 24 Hrs</u>		<u>DC at 24 Hrs or Greater</u>			
<u>DC Month</u>	<u>Cases</u>	<u>Pct</u>	<u>Cases</u>	<u>Pct</u>	<u>Total</u>	<u>Avg LOS in Hrs</u>
<u>July</u>	<u>87</u>	<u>23.58%</u>	<u>282</u>	<u>76.42%</u>	<u>369</u>	<u>35.47</u>
<u>August</u>	<u>107</u>	<u>26.95%</u>	<u>290</u>	<u>73.05%</u>	<u>397</u>	<u>35.57</u>
<u>September</u>	<u>92</u>	<u>22.12%</u>	<u>324</u>	<u>77.88%</u>	<u>416</u>	<u>38.31</u>
<u>October</u>	<u>107</u>	<u>24.32%</u>	<u>333</u>	<u>75.68%</u>	<u>440</u>	<u>36.74</u>
<u>November</u>	<u>101</u>	<u>24.82%</u>	<u>306</u>	<u>75.18%</u>	<u>407</u>	<u>35.83</u>
<u>December</u>	<u>105</u>	<u>25.00%</u>	<u>315</u>	<u>75.00%</u>	<u>420</u>	<u>37.16</u>
<u>January</u>	<u>103</u>	<u>25.06%</u>	<u>308</u>	<u>74.94%</u>	<u>411</u>	<u>37.49</u>
<u>February</u>	<u>104</u>	<u>26.00%</u>	<u>296</u>	<u>74.00%</u>	<u>400</u>	<u>36.02</u>
<u>March</u>	<u>90</u>	<u>22.73%</u>	<u>306</u>	<u>77.27%</u>	<u>396</u>	<u>37.52</u>
<u>April</u>	<u>111</u>	<u>27.61%</u>	<u>291</u>	<u>72.39%</u>	<u>402</u>	<u>35.38</u>
<u>May</u>	<u>115</u>	<u>26.87%</u>	<u>313</u>	<u>73.13%</u>	<u>428</u>	<u>35.19</u>
<u>Grand Total</u>	<u>1122</u>	<u>25.01%</u>	<u>3364</u>	<u>74.99%</u>	<u>4486</u>	<u>36.44</u>

Table B illustrates the breakdown of observation length of stay excluding the clinical decision units (CDUs).

When looking at Table B, the reader is better able to understand how observation units in the hospital differ from those in the Emergency Department (CDUs). A popular misconception would be that CDUs would have longer length of stays as many of these cases are considered critical cases. However, this belief is untrue according to the tables above. When CDUs were removed from the data, it showed that the percentage of cases that exceeded 24 hours actually increased. From this and the fact that average length of stay is also longer for normal observation units, CDUs are running more efficiently than

their counterpart. Regardless of this fact, both forms of observation are not proceeding as optimally as they should be.

These findings are not abnormal. According to one systematic literature review done in the UK, problems in observation units and clinical decision units are not exclusive to the United States. The study found that there were many improvements needed to be made to the CDU in the ED and the regular observation units in the hospital in order to streamline care (Hassan 2003). Another study discovered that length of stay improved with regards to ED visits as a result of CDUs taking these patients but also resulted in an increase length of stay in the CDUs (Schull 2008). Based on this information, the reader can gather that results of observation length of stay, while unsurprising, illustrate the need for improvement in these facilities

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