

ORIGINAL ARTICLE

Hospital based physician advisor program sheds new light on observation rate

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ABSTRACT

Hospital observation is a topic of interest among patients for whom being classified as observation has negative financial ramifications. Similarly, observation rate is monitored by some hospital administrators because of its potential financial impact on the health system. During the creation of an internal physician advisor program, the new health system physician advisor was asked to investigate causes for a higher than average observation rate for WellSpan Summit Health. Using Lean methodology, standard work was established for the physician advisor observation patient review process when inpatient criteria were not met. Key performance indicators were tracked using production boards and a dashboard that interfaces with the electronic health record. The physician advisor program decreased missed inpatient conversion opportunities, but despite fixing process problems, improving level of care determination accuracy, and seeing outcomes that should have decreased the observation rate, the observation rate paradoxically increased. The cause of the rising observation rate is unknown but is likely multifactorial. Possible causes include changing standards concerning what qualifies as inpatient, Affordable Care Act (ACA) expansion of insured patients presenting to the emergency department (ED) with low acuity conditions, and the safety net function of the hospital for patients living with adverse social determinants of health. The safety net theory is most likely true for “high utilizers” using a greater portion of hospital resources than the rest of the population. This study provides evidence that observation rate is not a useful metric in the absence of a process problem. A more meaningful metric concerning observation patients is observation length of stay.

Key Words: Observation rate, Length of stay, Lean, Physician advisor, Social determinants of health, Utilization management, QlikView, High utilizers

1. INTRODUCTION

1.1 Health system overview

WellSpan Summit Health is composed of two community hospitals and dozens of patient care locations in Franklin County, Pennsylvania. It is part of WellSpan Health, a non-profit, integrated health system that serves the communities of southcentral Pennsylvania and northern Maryland with eight hospitals and more than 170 patient care locations. WellSpan Summit Health’s two Franklin County hospitals include WellSpan Chambersburg Hospital and WellSpan Way-

nesboro Hospital. WellSpan Chambersburg Hospital is licensed for 285 beds, and WellSpan Waynesboro Hospital is licensed for 57 beds. WellSpan Summit Health serves a population of about 170,000 and has approximately 15,000 admissions and 77,000 emergency department (ED) visits annually.

1.2 Definition of key terms

Utilization Management (UM) refers to the process of reviewing patient care. For hospitalized patients, an important

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UM function is to determine which patients should be classified as outpatients (outpatient observation status) and which patients should be classified as inpatients (inpatient status). It is worth pointing out that observation is a service and not a status. Only inpatients are admitted. The correct status designation for observation patients is outpatient observation status. Misunderstandings occur when patients are informed that they are admitted as observation.^[1] The difference between these 2 classifications can significantly affect the reimbursement received by the hospital for services provided, the patient's financial responsibility for those services, and if the Center for Medicare and Medicaid Services (CMS) will pay for short-term skilled nursing facility costs for Medicare beneficiaries.

1.3 Sources of controversy over hospital observation

Hospital observation rate is a controversial topic, and there is significant attention paid to the topic of observation by both mainstream media and patient advocacy groups.^[2-5] The typical focus in the mainstream media is the higher cost sharing associated with being classified as observation rather than inpatient for some Medicare beneficiaries. The inpatient deductible for fee-for-service (FFS) Medicare Part A patients is fixed and relatively stable, only increasing from \$1,316 in 2017 to \$1,364 in 2019.^[6] For outpatient services under Part B, the out of pocket patient expense is not fixed and will depend on the number of services provided. Currently, Medicare beneficiaries are responsible for 20% of the cost of covered outpatient services.^[6] Approximately 85% of FFS Medicare enrollees acquire a supplemental insurance that reduces or eliminates out of pocket costs.^[7] The media attention focuses on those among the 15% of patients for whom the 20% outpatient observation copay exceeds the fixed inpatient deductible.

1.4 Hidden realities and the imperative of regulatory compliance

What is rarely reported is that for most FFS Medicare enrollees, the hospital status will not impact out of pocket expense and for the few without supplemental insurance, the 20% copay may actually be less than the inpatient deductible. Similarly, for some patients with commercial insurance, the total and out-of-pocket spending has the potential to be much lower with observation care compared to hospital admission.^[8] Regardless of the pros and cons of observation services for each individual patient, hospitals must adhere to Medicare rules, not patient requests.^[9] An important role that UM departments play is ensuring regulatory compliance with state and federal laws and compliance with insurance contracts.

1.5 Overview of utilization review

The UM process begins when the decision is reached to hospitalize a patient. The details of the patient's clinical presentation are screened using a hospital admission screening tool. This screening process is compliant with both federal^[10] and state^[11] conditions of participation applicable to the WellSpan Summit hospitals. This initial screening establishes the medical necessity for the patient to receive hospital services and determines the appropriate hospital status (inpatient or outpatient) for those services. Status determination is also known as level of care determination. Cases that do not pass this initial screening process are directed to a physician advisor, typically a member of the hospital's UM committee, but sometimes this role is performed by a third-party vendor. Over the past few years, there has been an increasing trend for hospitals to develop an internal physician advisor program. WellSpan Summit Health established a full-time internal physician advisor program in 2016.

2. METHODS

2.1 Physician advisor program details

Prior to creating an internal physician advisor program, employed hospitalists served as physician advisors on an as needed basis but most of this work was performed by a third-party vendor. One full-time physician advisor was hired initially and was tasked to create standard work for the role and identify opportunities for improvement of the UM process. The physician advisor was trained in Lean methodology and implemented Lean strategies such as the creation of a production board that was visible in the physician advisor office. A commercially available self-service data visualization platform called QlikView (Qlik) was used to create an electronic physician advisor dashboard. Qlik interfaced with the electronic health record, allowing robust, real-time data analytics for level of care determinations, denials and appeals activities, hospital length of stay, and hospital census levels over time. This data could be exported to excel where it could be further analyzed using pivot tables.

All inpatients not meeting inpatient criteria as determined by a UM nurse through a commercially available screening tool were referred to a physician advisor for review; however, there was not a standard process for referring outpatient observation patients for an inpatient review when these patients did not meet inpatient admission criteria. The Medicare Benefit Policy Manual indicates "In only rare and exceptional cases do reasonable and necessary outpatient observation services span more than 48 hours".^[12] Creation of standard work streamlined this referral process in line with this Medicare standard and commercial insurance standards concerning observation length of stay. This change in obser-

vation review process significantly increased the physician advisor level of care determination volume.

By year 2 of the internal physician advisor program, data gathered using Qlik justified the addition of a second full-time physician advisor and two part-time physician advisors. Standard work was created as part of continuous process improvement and monitoring efforts, and the current physician advisor work flow extends beyond simply doing level of care determinations. To ensure inter-rater reliability, random chart audits occur quarterly. Physician advisor standard work includes attending daily interdisciplinary rounds performed on the dedicated observation unit as well as daily review of every observation patient in both hospitals of the health system to ensure that patients are in the appropriate status. In addition to daily interactions with the medical staff and attending physicians, the physician advisor regularly attends medical staff department meetings and presents cases with the hope of improving documentation and the accuracy of patient status assignment.

2.2 Quality improvement goals

WellSpan Summit Health hospitals historically have had higher observation rates than other similar hospitals within the mid-Atlantic region as revealed by benchmarking data provided by Vizient, a member-driven health care performance improvement company. What follows is a review of the outcomes of quality improvement efforts developed during the implementation of the new physician advisor program with a focus on lessons learned about observation rate as a metric. The following Key Performance Indicators (KPI's) were set for the program:

- (1) Avoid missing inpatient conversion opportunities.
- (2) Eliminate preventable commercial denials or adverse MCRE audit outcomes.
- (3) Achieve 80% concurrence in quarterly physician advisor level of care determination audits.
- (4) Achieve observation rate comparable to similar hospitals in the mid-Atlantic region.

3. RESULTS

Expansion of the physician advisor program more than doubled the volume of level of care determinations. The Qlik dashboard and the use of process control charts similar to the observation throughput process control chart presented here (see Figure 1) allowed early identification of the impact of process changes. A process in control should have random variability in a control chart. In Figure 1, the addition of a second full-time physician advisor in June 2017 disrupted the random variability. Frequent chart audits began in October 2017 and intensive physician advisor education began to correct the process disruption in November 2017 and random variation resumed by May 2018. Process control charts allowed for targeted chart review in real-time when a process change occurred. These efforts resulted in significant decrease in physician advisor variation and the 80% concurrence goal was reached. Between fiscal year 17 (FY17) and fiscal year 19 (FY19), the volume of observation (OBS) to inpatient (IP) conversions completed at the recommendation of the physician advisor tripled (see Figure 2). Simultaneously, the volume of inpatient status orders not meeting screening criteria but were supported as inpatient by the physician advisor also increased year-over-year (see Figure 3).

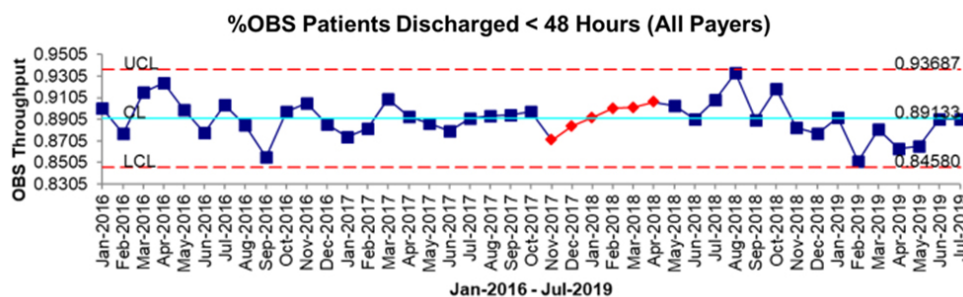


Figure 1. WellSpan Summit Health observation throughput process control chart

In addition to inter-rater reliability chart audits, a proxy for accuracy of status assignments are the audit outcomes of payers. Prior to the creation of a full-time hospital employed physician advisor, WellSpan Summit Health's commercial insurance medical necessity denial rate was unacceptably high, and the last medical necessity audit from Medicare

for the health system was unfavorable. As these quality improvement efforts changed status patterns for hospitalized patients, the commercial denial rate decreased by 50%, and the subsequent increase in conversion of outpatient observation patients to inpatient status in FY18 and FY19 did not result in an increased commercial insurance denial rate. Ad-

ditionally, after creation of the full-time physician advisor position and implementation of process changes, the health system went through 4 favorable Medicare medical necessity audits over 3 years with 84 of 85 cases approved. One of these 4 Medicare audits occurred in March 2018 as the process disruption discussed earlier was approaching stabilization (see Figure 1). All of the March 2018 Medicare audit cases were approved by the Medicare auditors. The favorable audit outcomes and stable denial rate suggest that the new

distribution of level of care determination outcomes reflect an improvement in accuracy. Despite improving the accuracy, the status pattern changes did not decrease the observation rate within the health system. Surprisingly the observation rate increased despite starting more cases as inpatient, converting twice as many observation cases to inpatient than before the physician advisor program, and having a relatively small volume of status changes from inpatient to outpatient observation (see Figure 2).

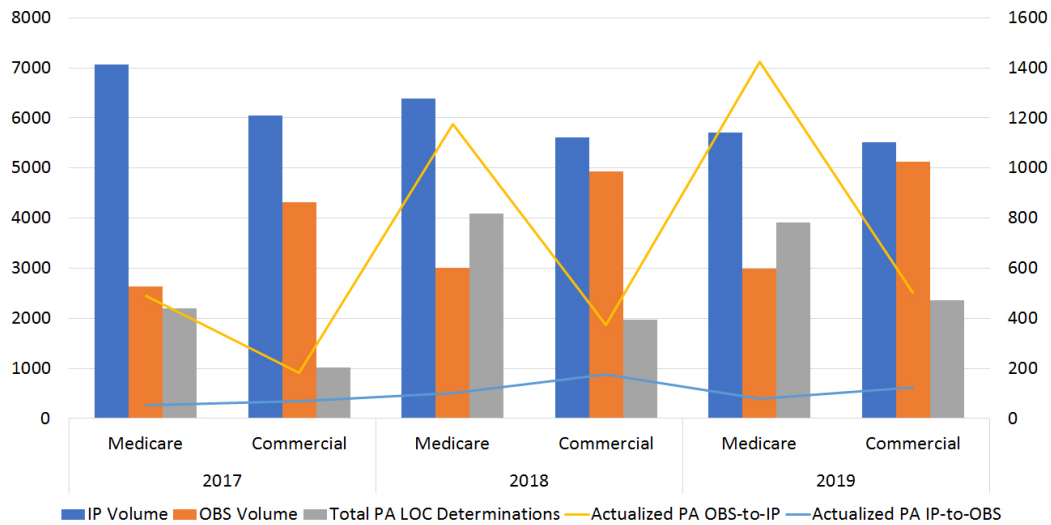


Figure 2. WellSpan Summit Health hospitalized patient and level of care volumes compared to physician advisor recommended status changes

Physician advisor level of care volume is increasing resulting in increasing OBS-to-IP conversions despite fewer IP patients & increasing OBS patients. The treating physician solely has the authority to assign status and does not always follow the physician advisor recommendations. “Actualized” refers to status changes that were completed as recommended by the physician advisor

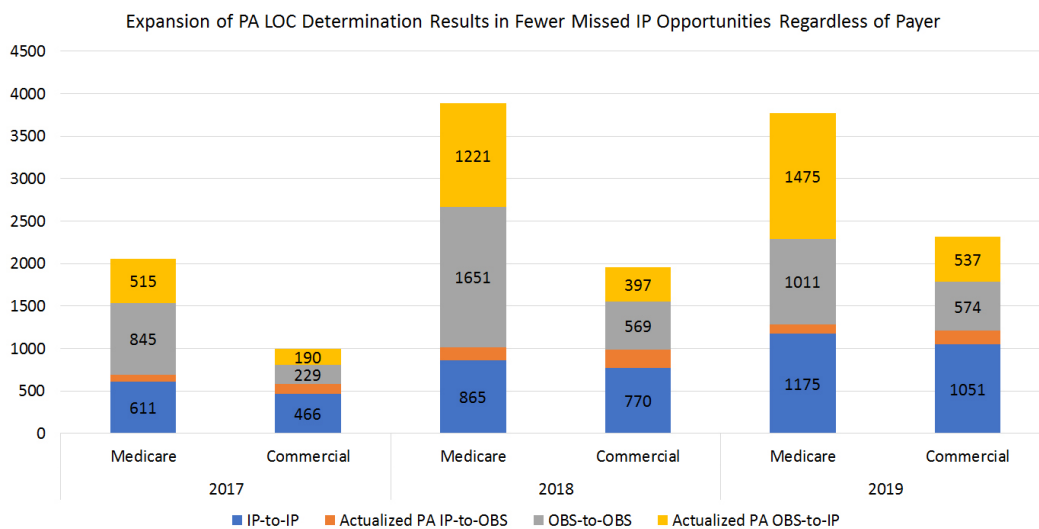


Figure 3. Physician advisor level of care volume and outcomes by payer over time

The treating physician solely has the authority to assign status and does not always follow the physician advisor recommendations. “Actualized” refers to status changes that were completed as recommended by the physician advisor

4. DISCUSSION

Regardless of payer, the physician advisor program decreased the frequency of missed inpatient conversions each year from FY17 through FY19 (see Figures 2-3). The increased OBS-to-IP conversion volume is largely due to the compliant use of the 2-midnight rule for fee-for-service Medicare patients. To a lesser degree, commercial OBS-to-IP conversion volume increased as well. Increased physician advisor bandwidth accounted for the improvements between FY17 and FY18. Level of care volume was stable between FY18 and FY19, and continuous process improvement accounted for the decreased missed inpatient conversions seen in FY19. One confounding factor is a declining hospital census each year from FY17 through FY19. The rising observation rate initially seemed paradoxical but there is a way to explain this outcome. There may be increasing numbers of observation patients who will not qualify to be inpatients despite robust UM processes to avoid missing OBS-to-IP conversions that would have been missed in the past.

One obvious example of shifting standards for what qualifies as inpatient are procedures no longer designated as inpatient, i.e. total knee arthroplasty.^[13] Likely a larger impact comes

from an increasing volume of patients seeking treatment in the ED requiring hospitalization for low acuity conditions and do not qualify for inpatient hospitalization (see Figure 4). This is especially true for many managed care insurance payers who are raising the bar for what qualifies as IP.^[14,15] Additionally, population health efforts may be reducing the acuity of illness when some patients present for hospital treatment. A 2018 study in Dallas, Texas reported the value of a population health model in reducing ED use and inpatient hospitalizations.^[16] In the WellSpan Summit Health system, highly effective congestive heart failure and chronic obstructive pulmonary disease clinics have been created to co-manage some of the sickest patients along with their primary care providers. There is also a growing palliative care practice that follows patients in the ambulatory setting and provides hospital consults. The primary care practices are Patient-Centered Medical Home (PCMH) certified by the National Committee for Quality Assurance (NCQA). In addition to the data driven continuous process improvement required to obtain and maintain NQCA certification, the PCMH sites also provide chronic condition management services and post hospital discharge transitional care to prevent 30-day readmissions.

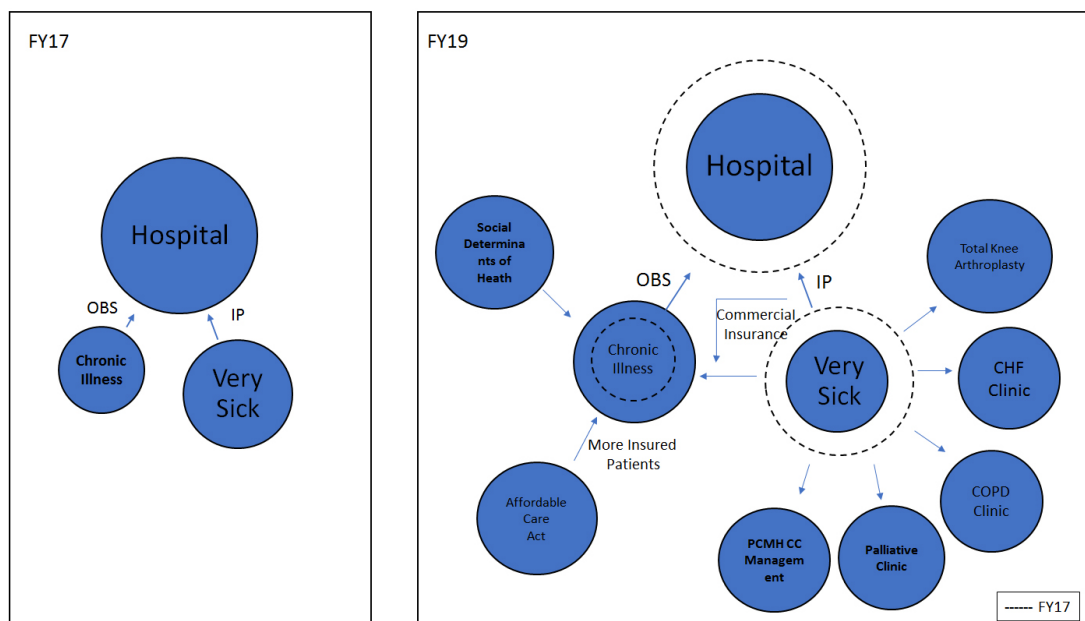


Figure 4. Possible causes for rising observation rate in WellSpan Summit Health system

Finally, the Affordable Care Act (ACA) increased the volume of newly insured medical assistance patients seeking care, and social determinants of health (SDH) may be increasing the volume of patients seeking care at the hospital who do not need hospital level treatment. A recent study of the effect of the ACA on subjective wellbeing in the US Adult popula-

tion using individual data from 1.6 million adults aged 18-64 between 2010-2016 revealed a negligible effect of the ACA on life satisfaction and no impact on emotional states.^[17] By providing medical insurance, the ACA addresses one barrier to improved health outcomes for vulnerable populations, but this study of wellbeing provides objective evidence of the

significant work that remains to address SDH.

The true causes for the higher than average observation rate for WellSpan Summit Health are unknown, but after implementing rigorous quality improvement measures, it is clear that these higher observation rates do not reflect process defects concerning utilization management. The KPI concerning achieving comparable observation rates to similar hospitals has been dropped. While the WellSpan Summit Health hospitals are outliers concerning observation rates, they are stand-outs concerning length of stay in the Vizient observation benchmarking data. The average length of stay for an observation patient in both hospitals approaches 24 hours.

When comparing hospital observation rates without looking at length of stay, the comparison is not equivalent. An analysis of observation length of stay for 3,012 hospitals was performed by American Hospital Directory, Inc. for calendar year 2015.^[18] Shoemaker chose a benchmark of observation stays greater than 48 hours to simplify analysis and to create a standardized comparison. Hospitals needed to submit at least 10 observation claims to be included in the analysis and the median percentage for facilities reporting stays of 48 or more hours was 89%. WellSpan Summit hospitals are consistently achieving the mean of this study (see Figure 1). One noteworthy observation reported by the author was that smaller, non-teaching hospitals were more likely to report no claims with observation services lasting greater than 48 hours. The implication is that larger, teaching hospitals are more likely to have observation stays lasting greater than 48 hours.

A strategy being used by larger hospitals to ensure the efficient delivery of observation care is the creation of a dedicated observation unit. Observational evidence has been published demonstrating the positive impact of observation units on length of stay.^[19] Establishing a dedicated observation unit and the standard work associated with its operation is one of the keys to a favorable observation length of stay in the WellSpan Summit Health system. Daily interdisciplinary rounds created a process for sharing UM knowledge to improve the accuracy and efficiency of the level of care determination process. Despite the many upsides to having an observation unit, there is the perception by some that there are financial downsides.

Inpatient reimbursement is significantly greater than reimbursement for observation services which leads some to conclude that there is a negative reimbursement incentive for observation unit operations.^[20] Stated another way, one might assume that observation services lose money because if observation patients were classified as inpatients, reimbursement

is higher. This conclusion requires that all observation patients have the potential to be inpatients. To the contrary, if UM screening processes are accurate and indicate a patient should be outpatient observation status, changing this patient to inpatient is not compliant and is possibly illegal. Clearly, observation rate as a metric requires a nuanced approach. One physician advisor proposes viewing observation patients as 2 categories: traditional observation and “long stay” observation, where long stay observation patients should normally be a small portion of the observation population and be characterized as having a length of stay greater than 2 midnights.^[21]

There is a bright side for hospitals providing efficient, high volume observation services but have a high observation rate. A high volume of observation services will not lead to financial losses if observation reimbursement remains higher than the cost to provide care, observation throughput remains high, and observation patients are not occupying beds that could be filled with inpatients who as a result are being treated elsewhere. Franklin county market analysis revealed that between FY17 through FY19 inpatient services were not being provided to a greater degree at hospitals outside of the WellSpan Summit health system. Additionally, for the time being, the contribution margin for providing observation services for these two hospitals remains positive when the observation length of stay remains less than 48 hours. Unfortunately, this may not be the case for long given the climate of declining reimbursement despite unchanged operational costs. Such is the case for some tertiary care facilities.

One study reported a negative contribution margin for observation care compared to a profitable inpatient contribution margin at an Academic Medical Center in Madison, Wisconsin.^[22] Not surprisingly, the authors attribute inadequate reimbursement to cover costs as the primary cause for the negative contribution margin for providing observation services, but the percent of patients discharged in less than 48 hours in that study was 83.5%. In the Shoemaker study, this would have placed this facility in the 3rd quartile of hospitals in that study; however, an important caveat to the Shoemaker study is that teaching hospitals were more likely to report a higher frequency of observation length of stay greater than 48 hours. This is likely at least in part due to the safety net function of many of these facilities.

In many health systems, there is a subset of patients using a disproportionate amount of health system resources. These patients are frequently referred to as “high utilizers”. A 2017 study at a safety-net hospital in Atlanta Georgia reported 3 common factors with its high utilizer population: poverty, addiction, and homelessness.^[23] These characteristics are likely to occur in other high utilizer populations and is the

case for the high utilizer population for WellSpan Summit Health where high utilization is defined as 3 or greater hospitalizations in 6 months or 10 or more ED visits in 6 months. From FY17 to FY19, the WellSpan Summit high utilizer patient population was 6%-7% of all unique patients and were consistently responsible for 20% of all ED visits and hospitalizations. Poverty, unemployment, homelessness, mental illness, and addiction were common features of patient's in this group. Another common feature is advanced, chronic illness. Twenty-five percent of high utilizer patients who met the definition in FY17 and FY18 died in FY19. The high utilization in these patients was likely associated with condition deterioration at the end of life. Surprisingly, the high utilizer volume after FY18 was stable, suggesting that the patients in this category are changing each year. It is certain that some high utilizers are being replaced since the high utilizer population is stable despite the death of twenty-five percent of the population in FY18. There are two likely causes. One possibility is that each year adverse social determinants of health or progression of chronic illness cause patients to become new high utilizers. Another possible cause is that some patients fluctuate between meeting the definition of high utilization and not meeting it. An encouraging finding was that 10% of the patients meeting the high utilizer definition in FY17 and FY18 did not meet the definition in FY19 due to sustained, decreased utilization. Hopefully, this improvement is due at least in part to ongoing population health management efforts. Nonetheless, high utilizer patients in the WellSpan Summit Health system are likely contributing to increased use of observation services, especially if adverse social determinants of health are driving them to seek care in the ED.

5. CONCLUSIONS

The internal physician advisor program created at WellSpan Summit Health has decreased the frequency of missed opportunities to convert observation patients to inpatients with-

out increasing the Medicare compliance risk or commercial denial rate. This study demonstrates a scalable process improvement effort that improved level of care determination accuracy. The impact of the physician advisor program on observation rate provides objective evidence for what many thought leaders have asserted: observation rate is an appropriate metric for quality improvement when process problems exist.^[21,24,25] In the absence of a UM process problem, a more appropriate metric for observation patients is length of stay, not observation rate. Although the observation rate remains high at WellSpan Summit Health, the UM process is robust and compliant. The high observation rate is the correct observation rate. It seems that the observation rate would have increased much more had processes not been changed. Although the true cause of the rising observation rate for this health system is not known, the success of population health management efforts seems to be a likely contributor. All other possible causes are outside of the control of the UM process.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare they have no conflicts of interest.

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