Economic Advantages of Performing Orthopaedic Surgical Procedures in Ambulatory Surgical Centres Over Hospital Out-Patient Settings

Harjot Uppal

Abstract

A study was conducted to compare the relative efficacy of ambulatory surgery centres (ASCs) and hospital outpatient departments (HOPDs) across eight orthopaedic procedures. The research was motivated by the fact that ASCs are becoming of increasing importance, even vitality, in the performance of a wide array of ambulatory surgical procedures including arthroscopy, arthroplasty, fracture repair, and laminectomy. As HOPDs continue to be hamstrung by resource constraints, ASCs can be seen to be cultivating ever more focused surgical expertise. Moreover, the ASC becomes a steadily more attractive alternative as HOPDs continue to be overburdened by the growing rate of ambulatory surgeries being performed on the hand, foot, ankle, and spine.

HOPD procedures are taxonomized by the ambulatory payment classification (APC) system while ASC procedures are described using current procedural terminology (CPT). A variety of quantitative and qualitative metrics were obtained that demonstrate that ASC procedures receive high marks. Indeed, ASC surgeries typically cost 25 to 50 percent less than their HOPD analogues and sport a 25 percent faster recovery time, partially as a result of dramatically decreased surgical site infections (SSI). Both patients and physicians further expressed a considerable degree of satisfaction with, and even preference for surgical procedures rendered at ASCs. One concern is that since many physicians hold ownership stakes in one or more ASC, this evident qualitative preference may, in fact, reflect personal bias. A follow-up study is postulated that is targeted at both assessing and reducing the effects of this perceived imparity

Keywords: Hospital outpatient department, Orthopaedic procedures, Ambulatory Surgery Centre.

Authors' addresses: Union College, 807 Union St, Schenectady, New York 12308, United States of America.
Corresponding Author: Harjot Uppal. *Email:* uppalh@union.edu

Introduction

Outpatient surgery has become an integral part of medical care across the globe. For instance, in the United States, the number of major and minor outpatient procedures undertaken in ambulatory surgical centers (ASCs) has risen dramatically over the past four decades. ASCs refer to health care facilities that play a central role in offering patients the much-needed convenience of having surgical procedures performed safely and in a timely manner outside hospital settings. Before the inception of ASCs, virtually all forms of surgeries were conducted in hospitals. Appointments characterized by long waiting periods were common during this time. Patients also spent several in-patient days in recovery. Additionally, medical practitioners faced different challenges, including working from limited operating rooms, difficulty in accessing new surgical equipment, and distractions of prolonged operating turnover times. The problems associated with hospital outpatient departments (HOPDs) compelled practitioners to look for change-driven strategies aimed at improving their performance. Though some countries still perform surgeries in these settings, the U.S. has made tremendous gains with regard to the development of ASCs. Individual physicians in the U.S. have assumed the leading role in promoting ASCs adoption as the cost-effective and a high-quality alternative to inpatient hospital surgical services. Since the inception of ASCs in the U.S., the facilities in question have resulted in high customer care, reduced healthcare costs, high quality, and excellent overall patient and physician satisfaction. ASCs complement managed care practioners, whose primary objective revolves around delivering quality, timely care at a significantly reduced cost. ASCs align perfectly well with the U.S. government's efforts to reduce its healthcare budget. The existing and potential economic benefits directly associated with ASCs involve decreasing costs without compromising patient and physician satisfaction levels.

The recently released current procedural terminology (CPT) codes are outpatient codes that determine the number of billable units of reimbursement that are allowable for a given procedure. HOPDs utilize ambulatory payment classifications (APC) codes for the same purpose. This paper will utilize the available literature on patient clinical outcomes regarding infection and reoperation rates examined over a 90-day period and show that eight common orthopaedic surgical procedures performed in ASCs are more economical compared to them being performed in the hospital outpatient settings. The orthopaedic surgery procedures evaluated are: shoulder arthroscopy with subacromial decompression and distal clavicle resection, knee arthroscopy with anterior cruciate ligament repair, open reduction and internal fixation of bimalleolar ankle fracture, open reduction and internal fixation of distal radius fracture, knee arthroscopy with medial and lateral meniscectomy, total knee arthroplasty, and one level lumbar laminectomy.

Patient Clinical Outcomes

Patients increasingly prefer outpatient surgery performed in ASCs to similar procedures undertaken in hospitals. The trend remains inextricably linked to positive patient clinical outcomes, such as reduced surgical site infections (SSIs) and reoperations, and advantages in cost, quality, and time factors (1). Hospitals continue to face a variety of resource-related challenges, including financial constraints, which inhibit their ability to meet the ever-growing demand for arthroplasty, hand, spine, and foot and ankle surgeries. For example, the Ambulatory Surgery Center Association (ASCA) reported that more than 5,300 ASCs provided over 25 million procedures in the country in 2005 (2). From the economic theory perspective, the rapid growth witnessed in the number of ASCs

serves as a clear indication that the market can expand at an increased rate when there is alignment of incentives of patients, payers, and providers.

SSIs and Reoperation Rates

Reoperation and SSI rates play a pivotal role in determining whether surgical procedures taken in ASCs are cost-effective. In their recent study, Toy et al. (3) set out to investigate the hospital admission and complication rates for patients who have undergone total hip arthroplasty (THA) surgery in an ASC with same-day discharge. Following the recent focus on bundled payments involving a 90-day episode-of-care, the researchers chose the same period to determine possible patient outcomes. Equally important, they reviewed reliable records of patients from two separate ASCs. In addition, they divided the 145 procedures (in 125 patients) involved in two groups based on when they were performed: early or later in surgeon's experience. To achieve the intended results effectively, they recorded any complications, hospital admissions, blood loss, time spent by patients at the facilities, and length of surgery.

This study demonstrates that same-day discharge to the patient's following total hip arthroplasty (THA) can be safely done without increased complications, hospital admissions, reoperations, or emergency room visits. In essence, the researchers established that only one of the 145 procedures, representing 0.7%, required direct admission to the hospital from the ASC (3). At the same time, only three of the arthroplasties (2%) required additional procedures within the global period. It is evident from the study that same-day discharge following THA done in an ASC tends to have limited complications, emergency room transfers, hospital admissions, and reoperations. In addition, with a CPT code of 27447 and APC number of 5115, total knee arthroplasties (TKAs) only costs $9,557.20 in ASCs, compared to $10,122.92 in HOPDs (Table 1) (4) (Near here). As this is a new code for ASCs, this difference in reimbursement is subject to change. Ultimately, the procedure is cheaper and fought with low complication rates when performed in an ASC setting.

In addition to TKAs done in ASCs, medical professionals remain interested in outpatient total elbow arthroplasties (TEAs) and THAs because of the increasing emphasis on efficient and high-quality medical care. In their retrospective study, Stone et al (5) employed a holistic approach to evaluating complications, hospital admissions, and reoperations in 28 patients with outpatient TEA discharged after the procedure for a 90-day period. In the follow-up, they not only recorded and examined postoperative complications but also the range of elbow movement measurements with the sole purpose of assessing the participants' outpatient experience at ASC. After performing univariate and multiple logistic regressions for each of the risk factors, they found that major complications occurred in approximately 7.1% of patients. Additionally, over the 90-day episode-of-care, 39.2% of patients had minor wound problems. Notably, their univariate regression analysis showed that the minor wounds in question had a strong correlation with smoking. Therefore, patient selection for this procedure in an ASC setting is critical.

Apart from reoperation and related complications, surgical site infections (SSIs) remain the most common surgical centre complication and serve as one of the main reasons for unplanned hospital admissions in the immediate aftermath of operations. SSIs account for more than 20 percent of healthcare-associated infections, particularly in hospitalized patients, leading to considerable morbidity, stays prolonged by up to 10 days, increased mortality rates, and cost between $20,000 and $27,600 per admission (6). Referring to the U.S. National Action Plan to Prevent Healthcare-Associated Infections (NAPPHAI), reducing SSIs remains one of the country's priorities. Initially focused on healthcare-associated infections experienced within acute care hospitals and related high-priority areas, the action plan now addresses additional healthcare settings, including ambulatory surgery. As much as there is little information regarding adverse events, such as SSIs, following operations undertaken in the ambulatory settings, the problems directly or indirectly linked to healthcare-associated infections from ASC procedures are minimal6. The researchers arrived at this conclusion based on the evaluation of improved data acquisition using CPT procedure codes for clinically significant site infections (CS-SSIs) associated with ASCs. In fact, at a Surgical Care Affiliate (SCA) surgicenter over a one-year period in Riverside, California, the post-operative infection was less than 1% for over 5,000 procedures7. In essence, the CPT codes enabled them to evaluate and establish the efficiency of performing surgeries in an ASC with the aim of reducing SSIs.

The ability to determine the incidence of CS-SSIs resulting from low-to moderate-risks involved in Medicare-certified outpatient

Table 1 Medicare ASC and HOPD Reimbursement Rates for Eight Orthopaedic Procedures.

Procedure	Medicare ASC Reimbursement	Medicare HOPD Reimbursement
Shoulder Arthroscopy with RCH, SubAcromial Decompression & Distal Acromioclavicular Resection and Debridement	$5,790.82	$10,896.88
Knee ACL Repair	$8,774.80	$16,503.30
Total Hip Arthroplasty	N/A	$10,122.92
Total Knee Arthroplasty	$9,557.20	$10,122.92
Open Reduction / Internal Fixation of Bimalleolar fracture with fluroscopy	$3,027.01	$5,838.73
Open Reduction / Internal Fixation of Distal Radial fracture with fluroscopy	$1,446.45	$5,838.73
Knee Arthroscopy with Medial and Lateral Meniscus Repair	$1,403.42	$2,645.23
Laminectomy with fluroscopy	$3,027.01	$5,838.73

*Total hip arthroplasty is not currently recognized as an outpatient procedure, and total knee arthroplasty has only recently been approved as an out-patient procedure.

surgical settings plays a fundamental role in revealing the effect of ASCs in health care costs. Owens et al. (2014) undertook a retrospective analysis of ASC procedures complicated by various CS-SSIs, which require reoperation. In the study, they employed the use of healthcare cost, state outpatient, and ambulatory surgery databases to examine the information about infectious outcomes in ASCs located in America's geographically dispersed states, including Nebraska, Tennessee, Florida, Georgia, New York, Hawaii, California, and Missouri. These states, which represent about one-third of the country's population, recorded low rates of postsurgical visits because of SSIs. In particular, postoperative acute care visits occurred only in less than three percent of the 1,000 surgical procedures done in ASCs6. The insignificant rate of reoperation often translates to reduced clinical and economic burden given the already concerted effort toward minimizing overall health care cost in the U.S.

Other common ASC procedures that are more likely to produce more SSIs and potentially increase health care costs in the U.S. include anterior cruciate ligament reconstruction (ACL), hernia repair, cholecystectomy, and breast-conserving surgery (BCS). In a recent retrospective cohort study involving persons who had undergone these forms of ambulatory surgical operations, Olsen et al. (8) used commercial insurer claims and cost distribution to determine the impact of SSIs on health costs. Despite the sparse nature of data on SSIs costs following ambulatory surgeries, the researchers adhered to the recommended 90-day postoperative procedure to identify any infections requiring surgery or during the hospitalization period. Using quantile regression to control operative, patient, and postoperative factors, they found few cases involving severe infections, which either resulted in surgical treatment or hospitalization. The cases in question were directly linked to the increased costs of healthcare after the four procedures.

The most important aspect of the study conducted by Olsen revolves around the comparison of results obtained from in-patient surgery facilities and ASCs. In particular, the researchers report that HOPDs were characterized by higher costs for each of the four common procedures than freestanding ASCs, which contributed to lower costs (8). Drawing from patient satisfaction trends in Glenwood Surgery Center (SCA Facility 50138), the researchers attributed the difference in results to the ability of nursing staff in ASCs to address primary concerns, provide the much-needed explanations, and communicate delays in a timely manner [9]. Most importantly, the study has since acknowledged and appreciated the critical role played by medical staff during and after follow-up calls. Ambulatory outpatient surgery facilities serve as the best possible alternative to HOPDs, especially in minor and selective major surgeries involving low risks.

Time/Procedure Length

Time or procedure length remains one of the key aspects of outpatient surgeries. In essence, physicians need to examine four length-of-surgery measures, including 1) time in the operating room, 2) time in surgery (a subset of time in the operating room) 3) time in post-operative care, and 4) total procedure time (time in the operating room, time in postoperative care, and transport time between the operating room and the recovery room) (1). Although previous research has placed much emphasis on documenting differences witnessed in surgery time between HOPDs and ASCs, variations in procedure time tend to reflect only the underlying differences common in-patient characteristics, not those in efficiency between the facilities in question. To resolve this concern effectively, recent research has focused on comparing the relationship between procedure time and total time in the ASC setting, to that in the HOPD setting. In doing so, it becomes clear how health care cost varies based on efficiency between hospital-based surgeries and ambulatory-centered surgical procedures. Estimates obtained from recently sampled and reviewed studies have revealed that time savings for ASCs are shorter than that of HOPDs. In other words, ASCs remain substantially faster at performing low-risk outpatient procedures than hospitals, particularly when observed patient characteristics and procedure type are controlled throughout a study. On average, patients operated in ASCs spent approximately 31.8 fewer minutes than those whose procedures were undertaken in hospitals (1). This represents a 25% difference relative to the operation activities' mean procedure time of about 125 minutes. In this regard, for an HOPD and an ASC that have similar equipment and the same number of recovery rooms and staff, the ASC will be performing more procedures on a daily basis and at a cheaper cost than the hospital outpatient facility. This may explain how more time-efficient ASCs can operate with lower Medicare reimbursed payments per procedure.

The estimated charges for operating a patient in ASCs are between $29 and $80 per minute (1). These charges exclude fees for the anesthesia providers and surgeon involved in the procedure. The researchers' calculation shows that even with the exclusion of time savings as well as physician payments outside a facility's operating room, an ASC could generate higher savings of between $363 and $1,000 per outpatient surgical case. In essence, these findings support the widely held claim that ASCs play a pivotal role in providing outpatient surgery at relatively lower costs than HOPDs.

In addition to their role in reducing procedure time, Medicare-approved ASCs rarely pose significant adverse medical risks to individual patients. Referring to the selection of a covered procedure, particularly those payable under ambulatory surgical center payment system (ASCPPS), each of the stakeholders, including the secretary of Health and Human Services (HHS) involved must focus on selecting safe procedures for patients when performed in an ASC (10). Although, the Secretary of HHS remains tasked with the responsibility of choosing the right procedures, the ultimate decision regarding whether ASCs and HOPDs serve as the most appropriate settings for a surgical procedure is made by responsible physicians based on a patient's individual clinical needs. In the case of patients age 65 and above, the 2010 report released by the Agency for Healthcare Research and Quality (AHRQ) shows that about 32% of this patient population has a high-risk medical history of comorbidities. This is due to increased incidence of chronic illnesses and conditions, such as cancer, arthritis, and lung disease (11). Younger patients presented in operating rooms often have lower-risk medical profiles. With these conflicting clinical needs, a patient is operated either in an ASC or in an HOPD depending on the severity of their comorbidities.

ASCs typically record fewer adverse incidents than procedures performed in physician offices (12). For example, the incident rate of adverse incidents in ambulatory surgical settings and offices occurred 5.3 and 66 per 100,000 surgical procedures, respectively (12). At the same time, the rates witnessed in 100,000 operations were 0.78% and 9.2% in ASCs and physician offices, respectively. Additionally, the relative risks recorded for deaths and injuries for ASCs and offices differed significantly, leading to the conclusion that surgical procedures performed by stand-alone practitioners in their offices have 10-fold increased risks over those performed in an ASC. This fact supports that cost alone should not be the sole driving force for selecting the setting of surgical service. While ASC-based procedures reduce potential hospital admissions, mild to severe injuries, loss of life, and healthcare cost, office-centered surgeries show an increased incidence rate. If each of the office procedures could be done in ASCs, the researchers argue that about six deaths and over 43 procedures could be prevented every year (12).

ASCs remain focused on providing individual patients with the best possible surgical experience, while at the same time ensuring the delivery of cost-effective care. The facilities at hand achieve this by saving the government, patients, and third-party payers' money. When comparing health care charges in HOPDs vs ASC throughout the country, the Medicare program, its principal beneficiaries, and related stakeholders save over $2.6 billion in benefits annually. This is because ASC reimbursement is significantly less for procedures (13). In addition, patient co-pays are concomitantly lower. Concisely, ASCs serve a significant role as the most suitable lower-cost alternative to outpatient surgical procedures.

Research on the efficiency of ASCs attributes their tremendous growth since the 1980s to the facilities' flexibility in meeting the rapidly growing demand for less-complicated outpatient surgery services. Despite their smaller footprint than HOPDs, ASCs remain less costly (10,13). First, they are less expensive to build even in urban and related environments, where vital resources such as land may be difficult to acquire. ASCs occupy minimal space, which means that their construction and general maintenance incur lower overhead costs. If the government formulated and implemented a change-driven policy that requires half of all the available procedures to be executed in ASCs, Medicare would be well positioned to save over $25 billion in the next one decade (13). In essence, all these are achievable following the benefit to insurers and Medicare from lower surgical prices in ASC settings.

Insurers, Medicare allowable rates, currently pay approximately half of the total amount paid in ASCs compared to HOPDs for performing the same surgical procedures. For instance, referring to CPT code 66982, extracapsular cataract extraction removal (ECER), Medicare pays a total of $1,671 for the surgery in HOPD, while under ambulatory payment classifications, (APCs), the program pays only $964 to ASCs for the same procedure (13). This high reimbursement gap in payment is one of the most recent discrepancies in the U.S. healthcare payment system. If the reimbursement gap of ASCs and HOPDs were only 16%, by 2017 the payment to HOPDs would have been approximately 82% more than ASCs (2).

Patients pay less for surgical procedure coinsurance done under ASCs than for those under HOPDs (percentage of payment rate). Therefore, Medicare beneficiaries end up paying $496 in coinsurance when they go through an ECER in an HOPD versus the $195 in ASCs (13). Without the introduction of ASCs, it is evident that healthcare expenditures in the U.S. would be amounting to hundreds of billions of dollars. As most private insurance companies use Medicare allowable reimbursement as a principle in reimbursement, the same rate of saving would apply. For this reason, employers benefit from reduced healthcare expense because employees embrace ASC services over HOPD services (14). Therefore, in theory, health care cost savings should be reflected by decreasing insurance premiums. This would financially benefit both the employee and the employers.

The wide gap between the reimbursement of ASCs and HOPDs plays a central role in threatening the various gains directly attributed to performing surgical procedures in an ASC setting. The payment differential plays a central role in creating an unsustainable market dynamic characterized by well-established hospitals strategically purchasing ASCs and converting them into HOPDs (15). This ploy of a hospital to convert an ASC into a HOPD that is located remotely, can result in higher medical costs. This occurs because once an ASC is acquired by a hospital, its ASC license can be terminated and converted into one of the hospital's units. This newly acquired unit will bill surgical procedures to the HOPD rates rather than ASC rates. As a result, the ASC will bill patients at higher rates.

Patient Satisfaction

Results obtained from recent surveys, studies, and systematic reviews show that patients are satisfied with the services and care they receive from ASCs. In particular, the majority of patients under ASC programs tend to cite reduced or lower costs, the ease involved in operation scheduling, the provision of safe and quality services, transparency, and increased personal attention as the main reasons for embracing ASCs (2). The ASC industry acknowledges and appreciates the important role played by disclosing pricing information in client satisfaction and overall loyalty (16). By making information about pricing available before surgery, ASCs promote transparency among all patients and Medicare beneficiaries. For the benefit of consumers, these disclosures set out the total price for the intended surgical procedures and specify the payment terms. By doing so, they empower healthcare consumers by providing the best opportunity to evaluate costs and compare prices among different healthcare providers. The U.S. ASC health care delivery model comprises of convenience, efficient care, and patient satisfaction. It revolves around enhancing patient care by enabling physicians and other practitioners to focus exclusively on small-scale processes in single settings rather than relying on hospital settings that typically have large-scale demands for the management's attention, space, and resources (16). With the limited number of surgical rooms and space, physicians can intensify quality control to ensure effectiveness in ASC processes. Additionally, the change-oriented and holistic model allows patients to gain quick access to their physicians, bringing concerns directly to responsible physician operators, particularly those that have direct knowledge about their cases. In essence, the three-dimensional framework adopted by ASCs improves customer satisfaction by reducing bureaucratic procedures usually encountered when dealing with various hospital administrators, who have less detailed knowledge about specific patients and their experiences.

ASCs can create and maintain physician ownership, which may help promote their presence in the health care market. As an extension of their practice, ASCs may allow physicians to increase the types of cases performed in these centers. This will ultimately reduce the patient wait-times for the procedures. In this way, ASCs encourage further specialization in the ambulatory setting. Unlike large-scale health institutions, such as hospitals, ASCs place greater emphasis on providing quicker, more responsive environments tailored to meet the changing individual needs of patients. With this lower bureaucratic system, ASCs enable physicians to exercise increased control over scheduling (17). As a result, the model decreases delays before or after performing given procedures. In hospital settings, physicians often delay or reschedule some surgical procedures following an institutional demand, including attending to emergencies. Unforeseen emergency room demands hinder practitioners' productivity and concomitant increase health care costs because patients are compelled to wait for many days before the operation or to leave the facility (17). Ultimately, physician ownership in ASCs allow surgeons to implement innovative strategies for leadership, governance, and quality improvement.

Patients identify ASCs and report improved satisfaction levels because the outpatient surgical facilities remain committed to quality. In fact, quality-care serves as one of the important hallmarks of ASC health care delivery model (5). The ASC community continues to show its commitment to offer quality collaboration through the ASC Quality Collaboration (AQC). The latter is an independent and transformation-driven initiative meant to promote safety and quality in ASCs. Tasked with the responsibility of developing meaningful and realistic quality measures for various ASC settings, AQC further oversees voluntary reporting by ASCs, ensuring accountability for the sake of the patients. A typical case in point involves the organization's

role in urging the Center for Medicaid Services (CMS) to focus on establishing standardized, comprehensive, and uniform quality and accountability reporting systems. Briefly speaking, the primary purpose of such systems would revolve around financial management, social responsibility, and performance. Accordingly, the already formulated quality measures aligned with the U.S. national plan goals, which revolve around transparency and healthcare cost reduction.

Apart from quality commitment, patients treated in ASCs tend to fare better than their counterparts who were operated in HOPDs. Using variations in ASC generated by the ongoing changes in APCs and Medicare reimbursements, Stone et al. (5) collected data on the safe surgery checklist and volume of procedures to determine patient satisfaction levels in selected HOPDs and ASCs. Considering the likelihood of patients who have undergone any of the highest-volume outpatient surgical procedures in an ASC or HOPD to visit EDs or have physicians operate them again, the researchers recorded patient outcomes. The highest-risk patients under Medicare program were less likely to visit EDs or be admitted to hospitals after having their surgeries performed in ASCs as compared to their high-risk Medicare counterparts treated in HOPDs5. At the same time, the researchers' satisfaction survey with an 85.7% response rate showed that 91.7% of patients reported happiness for going home in the immediate aftermath of their operations (5). Approximately, 96% reported additional confidence because they could exercise more control over their lives and funds during and after treatment. Undoubtedly, these findings serve as a clear indication that ASCs provide the much-needed quality care, regardless of patient's vulnerability levels.

Physician Satisfaction

Physicians developed ASCs in response to a myriad of challenges in their traditional hospital workplace, where they could not achieve the desired satisfaction levels. Besides complaints from patients who could wait for several days before receiving the recommended surgical services, medical professionals tasked with the responsibility of executing surgeries encountered and had to deal with slow and cumbersome operating turnover times, the inability to obtain new equipment due to poor, ineffective hospital policies and budgets, and frustrations involving scheduling delays (13). Even though Medicare has proved less receptive of these ASCs, individual physicians are quick to adopt and integrate technological advances in their operations, mainly by starting joint ASCs (16). This way, their morale has since reached an all-time high, while at the same, helping patients, including Medicare beneficiaries.

The ability of physicians to utilize new technologies to perform a growing range of simple to complex range of procedures safely on an outpatient basis not only show that they enjoy their work but also utilize their skills and potential. For example, physicians in the present-day society are now well-positioned to accomplish their operations within the shortest possible time because they employ the use of effective and less invasive techniques. Some of these new and result-oriented technologies include advanced anesthetics and endoscopic procedures (13). Traditionally, complex and multifaceted procedures needed long hours to complete, required physician operators to use major incisions, long-lasting anesthetics, as well as extended convalescence. The new approach employs the use of short-acting anesthetics and involves shorter recovery times. In other words, physicians no longer spend protracted follow-ups to ensure complete recovery from surgical procedures. All these advantages have far-reaching economic value because surgeons can maximize their talents, the government spends relatively less on health reimbursements, and patients remain well positioned to develop a quicker recovery in ASC settings.

The efficiencies attributed to ASCs revolve around the facilities' role in creating high-level flexibility among physicians. The disparities witnessed in recovery and preoperative times determine the differences in satisfaction and motivation levels between ASC and HOPD surgeons (1). Compared to the prevailing situations in HOPDs, for instance, ASC physician operators are more likely to operate from a single and strategically located facility. Since this location serves as their working point for multiple cases, the surgeons are in the best possible position to minimize delays (15). The small size and strategic location of ASC facilities reduce travel time wastage and increase physician productivity; thus, minimizing overall overhead costs that could be incurred in a complex hospital setting with many buildings and departments.

The turn-over time in operating rooms in ASCs remain significantly shorter than in HODPs because teams of staff typically have more consistent and clear roles. Though hospital surgery departments are often organized in a systematic and proper manner, the presence of many employees, activities, and patients with a variety of needs play a central role in making physicians less productive and satisfied in the workplace (12). In contrast to employees in HOPDs who tend to work in shifts, staff members in ASCs usually have incentives to accomplish their duties quickly, leading to higher teammate satisfaction. On the other hand, hospitals tend to re-operate as well as add-on cases, which directly compete with planned and potential outpatient procedures, causing fatigue and decreased employee morale. The economic theory provides that favorable work environment in an organization is inextricably linked to satisfied employees, who often align their objectives with the already established organizational goals (16). It means that physicians working in an ASC remain committed to the whole process of holistic benefit maximization, while at the same time contributing toward the concerted effort aimed at minimizing health care costs both at the national and facility levels.

In addition to conducive work environments and timely execution of surgical procedures, ASCs contribute to increased physician satisfaction because of the ownership principle. Essentially, physicians with ownership stakes in a given ASC usually enjoy greater profits when and after performing procedures in such facilities rather than HOPDs (9,15). Individual physician's professional reimbursement is not linked to site of technical service. Physicians may share profitability of an ASC with ownership opportunities. Although some critics argue that this practice may lead to demand inducement, with some providers recommending unnecessary and risk-laden procedures in their ASCs, the government has strict quality laws in place, governing the operation of physician-owned ASCs (17). ASCs must be linked to group practice models or be an extension of the surgeon's practice. In essence, reduced operation costs benefits patients and physicians alike.

Physicians draw their satisfaction from the freedom involved in the decision-making process. As stated earlier, ASCs differ from hospital-based outpatient surgery centers because a group of individual physicians owns the facilities; they are empowered with the opportunity to opine on crucial decisions (9). For example, physicians have to decide on which patients to treat at HODPs versus an ASC. The decision to operate a given patient at their ASCs may be driven by convenience, fulfilling amenities, greater flexibility with regard to scheduling procedures, and setting's efficiencies.

Physician-owners often consider economic, social, and non-economic factors when making vital decisions regarding whether to operate and treat given patients at their ASCs. A physician may choose to maximize their profits by treating a patient whose profit margin surpasses that of other patients with planned surgeries (15). In as much as this decision may be perceived negatively by opponents of

ASCs, proponents strongly argue that profit maximization alongside desirable patient outcomes conform perfectly well to the welfare agenda of any health care system16. For example, the act of treating the most at-risk patients for life-threatening complications at HOPDs involves optimizing better resources found in hospitals. Ultimately, recent studies have concluded that the differences between HODPs and ASCs suggest that hospitals can only maximize on their efficiencies and physician satisfaction by adopting highly specialized and unique organizational models.

Criticism

The profitability associated with ambulatory surgical procedures continues to place the image of ASCs in bad light. Critics argue that some physicians are neither driven by patient well-being nor overall healthcare reduction costs, but by their self-interests (17). In particular, this school of thought argues that the concept of physician ownership has since made ASC operations a business affair in which individual physicians place great emphasis on maximizing their income. Physicians receive the facility's fee share when their patients pay the ASCs. Since they typically receive nothing when such patients pay the HOPD, physicians may resort to hijacking patients that are more profitable, treating them in their own ASCs. This behavior could have adverse effects on the profitability of HOPDs and general hospital revenues. One of the Missouri-based hospitals, St. Louis, recently reported a significant drop in their annual revenue by more than 23% (17). The administrator cited an ASC near the hospital as the cause of the loss. The practice remains a major problem because many hospitals subsidize a number of healthcare services offered in their departments, such as uncompensated and charity care.

The incentive problems attributed to physician ownership of an ASC tend to have adverse effects on a healthcare facility's efficiency. For example, inefficiencies may be witnessed in health care delivery if physicians choose to assign patients to particular ASCs or HOPDs for profitability purposes, not patient needs (15). Anecdotal evidence suggests that ASCs have a negative impact on the financial performance of hospitals.

Conclusively, it is evident that patient clinical outcomes as well as patient and physician satisfactions justify the potential economic advantage of undertaking surgical procedures in ASCs rather than HOPDs. The expanded health insurance coverage in the U.S. has presented policymakers and related stakeholders with opportunities to identify and explore change-driven ways through which the country would accommodate the rapidly increasing demand for outpatient surgical services, compelling individual physicians to create ASCs. Serving as the immediate alternative to hospital-based outpatient surgeries, the ASCs were established with the sole purpose of improving health care quality and reducing health care costs by either eliminating or minimizing reoperation and infection rates. ASCs remain economically beneficial for many reasons. In particular, the facilities play a central role in creating high-level flexibility among physicians. Patients typically pay far less coinsurance for surgical procedures done in the ASC setting than for similar procedures undertaken in the HOPD. Additionally, insurers in collaboration with Medicare currently pay approximately half of the total amount paid in HOPDs for performing the same surgical procedures. Referring to CPT code 66982, extracapsular cataract extraction removal (ECER), for instance, Medicare pays a total of $1,671 for the surgery in HOPDs, while under APCs the program pays only $964 to ASCs for the same outpatient procedure. In essence, the overall economic benefits in a free market system attributed to ASCs revolve around efficient and flexible physician practice, the cost savings, patient satisfaction, high-level quality care.

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