

# Intradepartmental System of Allocating Operating Room Block Time and its Financial Impact at The University of New Mexico Department of Orthopaedics & Rehabilitation: A Preliminary Report

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## Abstract

*Background:* Within a hospital, the operating room (OR) is one of the most critical and expensive resources. Labor productivity is maximized by filling allocated surgical block time with as many hours of cases as possible. We have found that the intradepartmental block time release system at our institution has improved access to operating time, resulting in a substantial financial advantage within the department.

*Methods:* The annual charges and collections produced by the pick-up of intradepartmental released block time during the past 4 fiscal years (July 1-June 30) was assessed at both the main hospital and an outpatient surgical center.

*Results:* There is a general, year-over-year trend of increasing charges and collections from the intradepartmental release of OR time. The average gross collection rate for OR pick-up time is 30%, which matches the average collection rate of about 30% for our department. At the main inpatient hospital, the orthopaedic spine service typically comprises the most-released OR block time. In the outpatient setting, typically the orthopaedic hand service captures the most released OR block time.

*Conclusions:* The early release of allocated block time on an internal level may help schedule patients in an easier manner, with decreased patient wait times than other methods, and maintain the overall revenue within the department. Further studies that quantify surgeon satisfaction would help strengthen the use and validation of this system.

## Introduction

Healthcare systems are constantly being challenged to deliver high-quality care with limited resources. Within a hospital, the operating room (OR) is one of the most critical and expensive resources.<sup>1</sup> In addition to the cost of supplies, payroll expense (eg, nursing and anesthesia staff) accounts for most OR costs.<sup>2</sup> With increasing pressure to minimize the costs of caring for surgical patients, one successful strategy is to maximize labor productivity by employing the fewest full-time nurses and anesthesiologists necessary to adequately cover patients undergoing elective procedures. Personnel scheduling needs can be better anticipated when there is a definitively scheduled day of operative treatment. Alternatively, these scheduled days can be planned for days on which a full complement of OR personnel would be available.<sup>3,4</sup>

A common method to provide surgeons with access to sufficient OR time to complete their elective cases and match caseload with OR staffing is to allocate OR “block time.”<sup>5-7</sup> With block scheduling, OR time is assigned to a surgeon, surgical group, or surgical department for their exclusive use up to some designated time before the day of treatment (ie, 10 working days before the scheduled block day of the treatment). Labor productivity is maximized by filling the block time with as many hours of cases as possible. A key factor in filling block time is to forecast accurately how much block time to allocate to each surgeon or group of surgeons who share a block. The surgical group needs sufficient block time to complete elective cases. On the other hand, it is also important to avoid allocating too much time that ends up going unfilled,

leading to OR staff who are being paid with no cases to cover. These goals require accurate forecasts of each surgical group's needed time to complete respective elective cases.<sup>4</sup>

Often in surgical systems management, the problem is when and how to release allocated OR block time. One method is making the block time available to any surgical specialty (in any surgical department) within the organization, with an established deadline—that is, about 2 weeks before the operative procedure. This strategy may involve a release of surgical time if cases are not scheduled by the predetermined deadline; additionally, the method can include a release of surgical time if the surgeon is planning to be absent on professional leave or vacation.

In the current study, we examined a different method of allocating OR block time employed by our department: intradepartmental release of block time to be used by other colleagues of orthopaedic surgeons within our group. We aimed to determine whether the use of the intradepartmental strategy resulted in overall financial advantage within our department.

## Methods

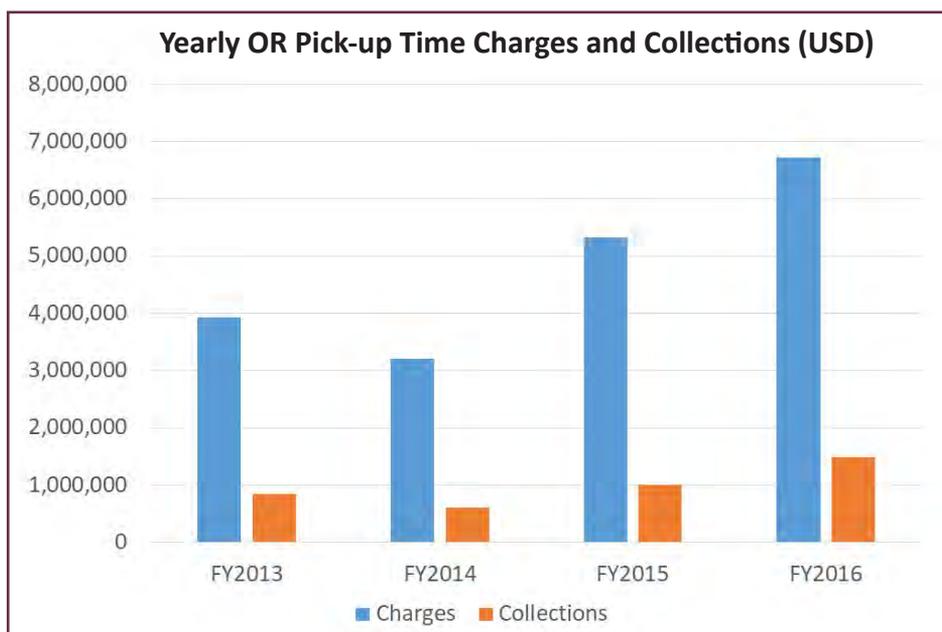
We instituted the intradepartmental model in 2012. In our current model, surgeons are allocated block time for use in scheduling operative cases. However, there are many instances every month when the surgeons are either gone on professional leave, vacation, are clinically slow, or are providing coverage for our orthopaedic trauma room concept and thus unable to utilize their allocated OR block time. To optimize our departmental allotted block time

and minimize the potential effect of lost revenue from unutilized time, we initiated an internal, intradepartmental release of block time with associated data collection and administrative assistant responsibility. In this system, surgeons identify unusable OR block time immediately, and a central coordinator is emailed who makes the time available to other orthopaedic surgeons in the department who wish to schedule cases in the released block time.

## Results

The first complete year for financial evaluation of the systemic approach was fiscal year 2013 (July 1, 2012–June 30, 2013). The annual charges and collections produced by the pick-up of intradepartmental released block time during the past 4 fiscal years (July 1, 2012–June 30, 2016) is shown in Figure 1. The average gross collection rate for OR pick-up time was 30%, which matches the average collection rate of about 30% for all the department.

Figures 2A and 2B show the OR pick-up time charges and collections, respectively, by specialty for the most recent fiscal year 2016 (July 1, 2015–June 30, 2016). This breakdown also represents the percent of block time that was picked up by each specialty at both the main hospital and in the outpatient surgical unit. At the main inpatient hospital, the orthopaedic spine service typically accounts for the service that captures the most released OR block time. In the outpatient setting, typically the orthopaedic hand service captures the most released OR block time. Figure 3 illustrates these charges and collections by location (main hospital OR versus satellite clinic OR).



**Figure 1.** Charges and collections in USD, yielded from the pick-up of intradepartmental released operating room block time during the past 4 fiscal years (July 1, 2012 through June 30, 2016).

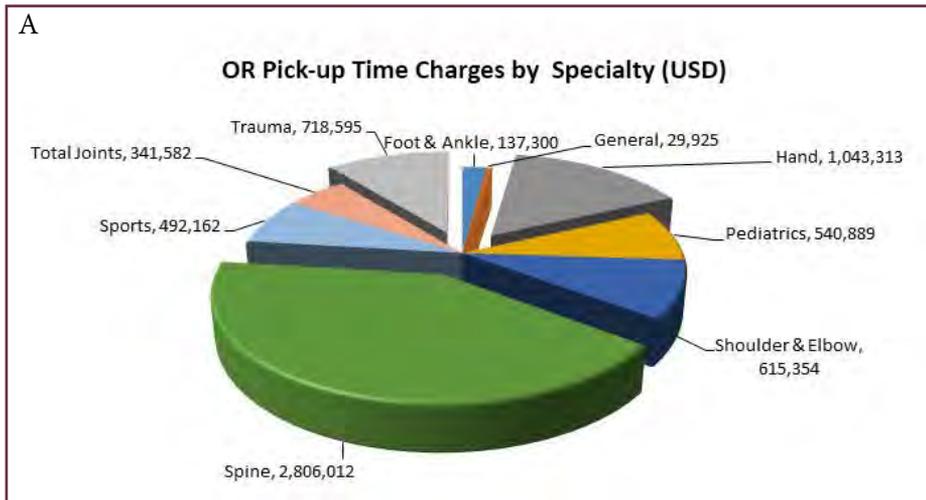


Figure 2. Charges (A) and collections (B) in USD, listed by orthopaedic specialty from the pick-up of released operating room block time for fiscal year 2016 (July 1, 2015 through June 30, 2016).

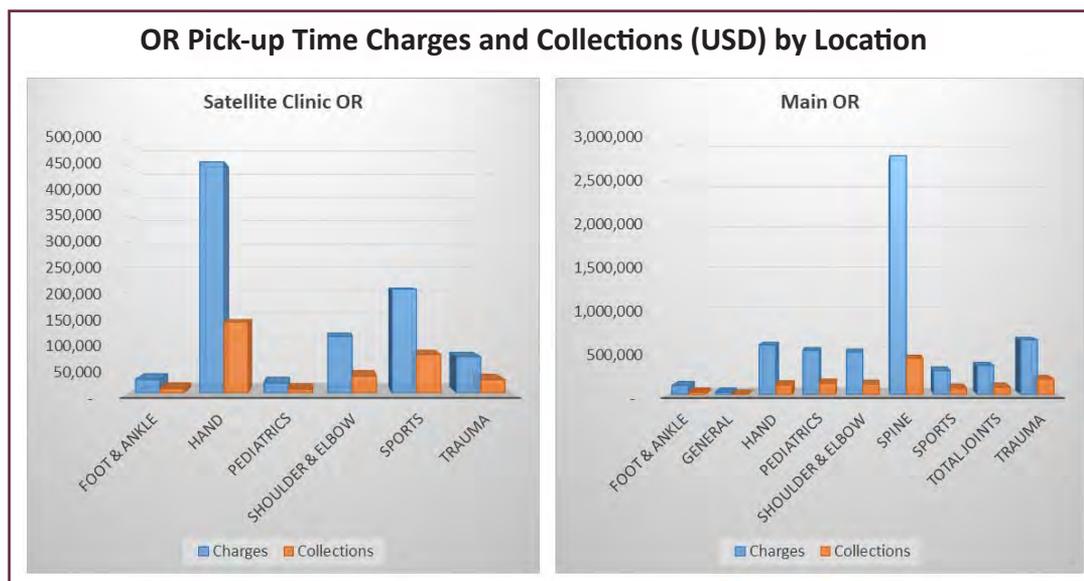
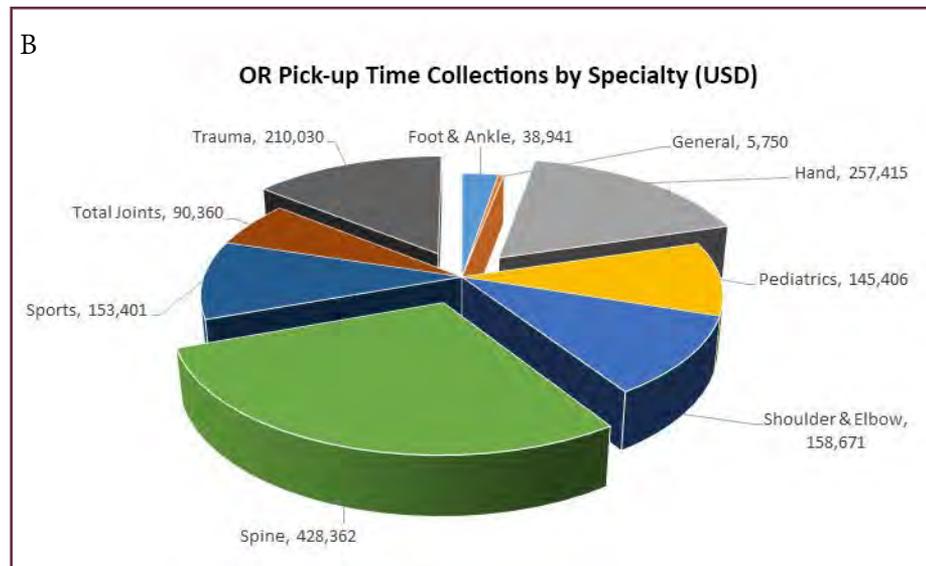


Figure 3. Charges and collections in USD listed by location (main hospital or satellite clinic) from the pick-up of released operating room block time for fiscal year 2016 (July 1, 2015 through June 30, 2016).

## Discussion

Surgical planning and scheduling can be complex tasks owing to multiple stakeholders with conflicting interests and limited resources. A survey on OR management in Switzerland showed that hospital management and employees are not satisfied with the current surgical scheduling practices; in fact, only 26% of the survey interviewees are somewhat happy with the scheduling systems.<sup>8</sup> In another study performed at the University of Iowa, the investigators surveyed patients on what was considered an acceptable time to wait for elective operative treatment. Half of the patients considered 2 weeks to be the longest acceptable wait time for elective operative treatment.<sup>9</sup> The OR manager must balance patients' desires not to wait for treatment versus the fact that OR utilization and collection rate will increase as waiting time increases.

Prior to implementation of our current model, the unused block time was viewed as lost revenue. By capturing intradepartmental released block time, this is an additional revenue stream seen as a distinct financial advantage for the department that was not previously accounted for. Since the use of the intradepartmental model, we have noticed a positive change in the department's charges and collections with the system. Our department's use of a new model of allocating block time by offering it internally has led to shorter wait times and better utilization. With a shorter lead time from scheduling to operative treatment, we also speculate that this translates into a positive clinical benefit for our patients, allowing them a quicker path to recovery and return to sport or work.

This study has several limitations. First, this report is not meant to be a detailed cost-analysis study. We have only shared our overall experience and general trends related to the intradepartmental release of block time and have not performed a detailed cost-analysis, comparing the revenue and expenses in the past 4 years to those before implementing the system. Second, although we hypothesize that a shorter patient waiting time for surgery positively affects the clinical results for some patients, this has not been directly assessed in this study. Owing to the multiple variables related to how, when, and where patients are scheduled for surgical treatment, an objective number for the actual days of shortened lead time is not available. Lastly, although a thorough extraction of the data and costs for the past 4 fiscal years was performed, it is possible that some released OR time was not accounted for or identified in this report.

Compared with similar systems, the departmental release of allocated block time can help busy orthopaedic surgeons with scheduling patients, create less waiting-time for patients, and keep the same revenue in the department.

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## Conflict of Interest

The authors report no conflicts of interest.

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