

**OR performance**

# Data for benchmarking your OR's performance

**H**ospitals are facing stiff economic winds. They are challenged by shrinking reimbursement from Medicare and Medicaid, even as more patients will be covered by these publicly funded programs. Perioperative managers and directors are under pressure to make the most of their department's resources. You're being asked to measure every aspect of your OR's performance from on-time starts to turnover time to OR utilization.



An analysis from the OR Benchmarks Collaborative (ORBC), a service of McKesson, provides information you can use to compare your department's performance (sidebar, p 14).

## Analysis of ORBC data

To provide a picture of how US facilities are performing on ORBC's key performance indicators, an independent analysis was performed for McKesson by the QI Project, a unit of Press Ganey. The QI Project has long experience in data collection and analysis of quality improvement measures.

The analysis included a subset of 134 US facilities and 107 Canadian facilities that had submitted a full 12 months of validated data for all 55 data elements for 2010.

This article focuses on the US hospital sample. Of the US facilities, 87% were short-term acute care hospitals, 11% were ambulatory surgery centers (ASCs), and 2% were specialty hospitals, such as orthopedic, cardiac, or children's facilities.

The median number of ORs for the hospitals was 11.1; the largest group (35%) had 6 to 10 ORs. A third (30%) had an academic program, as defined by the Council of Teaching Hospitals.

In all, 27% had an open-heart program, 23% had an oncology program, and 10% had a transplant program. About three-fourths (78%) were located in urban areas, and 16% were rural (charts).

The most common procedures these hospitals performed in the aggregate are cataracts (6.8%), cystoscopy (3.8%), knee/hip/shoulder arthroscopy (3.4%), laparo-

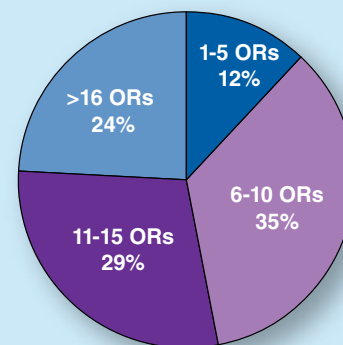
## Benchmarking participant demographics

### Type of US facility

<b>Hospital</b>	<b>87%</b>
<b>ASC</b>	<b>11%</b>
<b>Other</b>	<b>2%</b>

Other includes specialty hospitals, such as eye, orthopedic, and heart hospitals.

### US hospitals



## Sample demographics

	<b>ORBC sample</b>	<b>American Hospital Association sample</b>
<b>Median no. of ORs</b>	<b>11.1</b>	<b>8.4</b>
<b>Academic program</b>	<b>30.9%</b>	<b>8.3%</b>
<b>Location</b>		
<b>Urban</b>	<b>78.3%</b>	<b>78.4%</b>
<b>Rural</b>	<b>15.8%</b>	<b>21.6%</b>

## US ambulatory surgery centers

<b>1-5 ORs</b>	<b>48%</b>
<b>6-10 ORs</b>	<b>43%</b>
<b>&gt;16 ORs</b>	<b>9%</b>

scopic cholecystectomy (3.1%), and total knee replacements (2.5%).

The sample has a similar demographic profile to hospitals nationally, as indicated by a comparison with the American Hospital Association database, though the sample has a higher percentage of academic hospitals (31% versus 8%).

### Key indicators

The chart on page 14 illustrates how these hospitals performed on a selected group of the key performance indicators, such as first-case on-time starts and turnover time, reporting performance levels for the median as well as the 90th and 95th percentiles.

Some indicators show a fairly large spread between the median and the 90th and 95th percentiles, indicating these measures are still challenging, despite the considerable effort many ORs have made to improve on them. Examples are the accuracy of case-duration estimates and on-time starts for first cases of the day and for subsequent cases.

For instance, if your facility is 60% accurate in estimating case durations, you know you're

## Key performance indicator results

Indicator	Median	90th percentile	95th percentile
Accurate case-duration estimate	41.7%	56.1%	61.4%
First case on time/early	64.3%	88.3%	91.4%
Subsequent case on time/early	53.5%	71.6%	74.9%
Patient in to incision (minutes)	25.7	20.4	19.7
Patient close to out (minutes)	9.6	6.9	6.5
Turnover time (minutes)	28.5	22.7	21.4
Preadmission screening	49.0%	80.4%	80.4%
Surgical checklist	100%	100%	100%
Prime-time utilization (7 am to 3 pm)	75.3%	93.9%	100.0%

## Indicator definitions

### Accurate case-duration estimate

Measures the percentage of cases where patient-in-room duration is within 15 minutes of the estimated in-room duration.

### First case on time/early

Measures percentage of first cases with an in-room start time that is either early or not more than 5 minutes after the scheduled start time.

### Subsequent case on time/early

Measures percentage of subsequent cases with an in-room start time that is either early or not more than 15 minutes after the scheduled start time.

### Patient in to incision

Measures the average time (in minutes) that elapsed between the patient entering the operating room and the first incision.

### Patient close to out

Measures the average time (in minutes) that elapsed between the close of the last incision and the time the patient left the operating room.

### Average turnover minutes

Measures the time (in minutes) that elapsed between the prior patient exiting the room and the succeeding patient entering the room.

### Preadmission screening

Measures the percentage of cases that were recorded as screened prior to surgery. Only cases specifically recorded as yes (screened) or no (not screened) are included in the measure.

### Surgical checklist

Compliance with the surgical pause before incision.

### Prime-time utilization

Measures percentage of total available time between 7 am and 3 pm with all rooms in use for patient care plus turnover time.

Source: McKesson. OR Benchmarks Collaborative. Reprinted with permission.

close to the 95th percentile for this sample of hospitals. But if you're at 65% for first-case on-time starts, which is close to the median, you know there's room to improve. Thus, you might decide to focus more time on improving first-case starts than on improving scheduling accuracy. (ORBC defines "on time" for first cases as the patient in the room early or within 5 minutes after the scheduled start time. For subsequent cases, "on time" means the patient is in the room early or within 15 minutes after the scheduled start time.)

Though much of the focus is on first-case starts, there was also a large gap in performance in being on time for subsequent cases. At the median, just over half (53.5%) of these cases started on time.

**Turnover time**

For turnover time, the median overall was 28.5 minutes, while at the 95th percentile, turnover time was 21.4 minutes. Turnover time is measured from when the prior patient exits the room until the succeeding patient enters the room.

In addition to measuring turnover time, it can be useful to compare in-room time segments for surgical cases, including patient entry to incision and last incision closed to patient exit, to see if there is room to improve. The chart on this page shows case times for common procedures and compares time segments for hospitals and ASCs as well as US and Canada.

Prime-time utilization (7 am to 3 pm) at the median was 75% for this group of hospitals. Utilization is defined in ORBC as rooms in use for patient care plus turnover time.

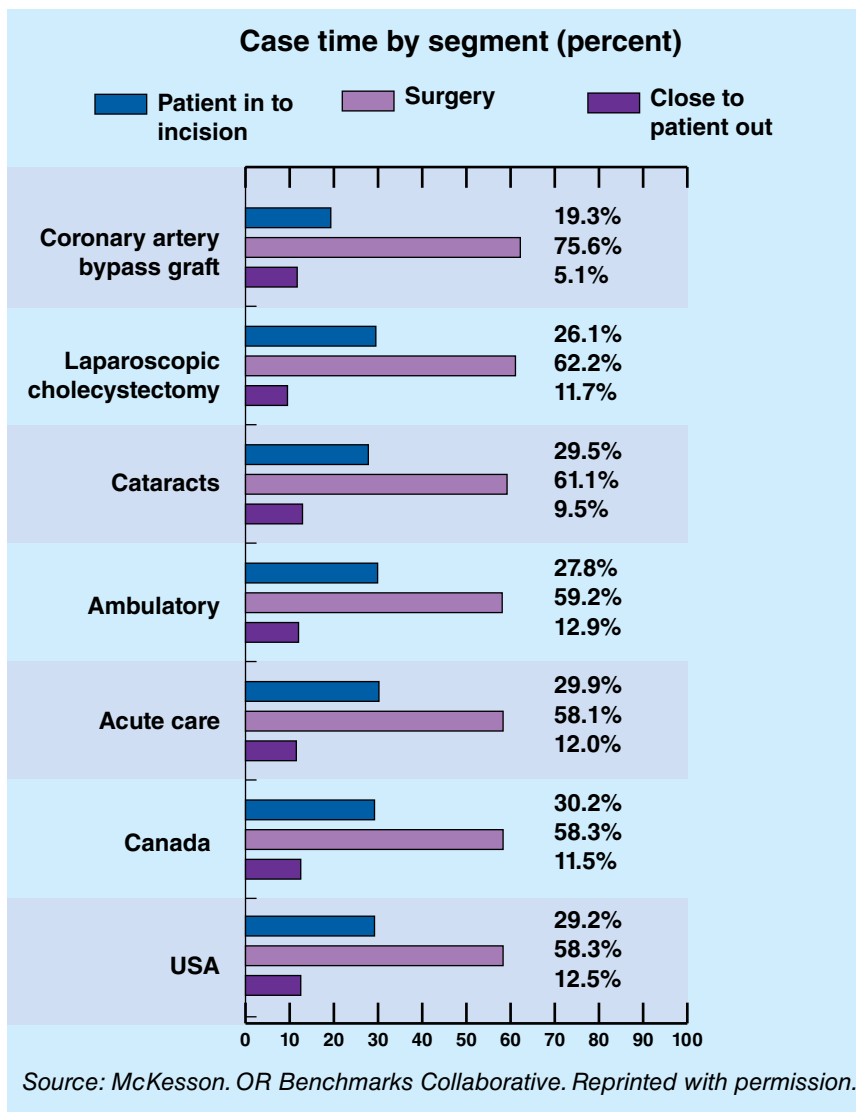
Regarding preadmission screening, at the median, about half (49%) of patients were screened prior to the day of surgery. At the 90th and 95th percentile, the level was much higher, with 80% of patients screened.

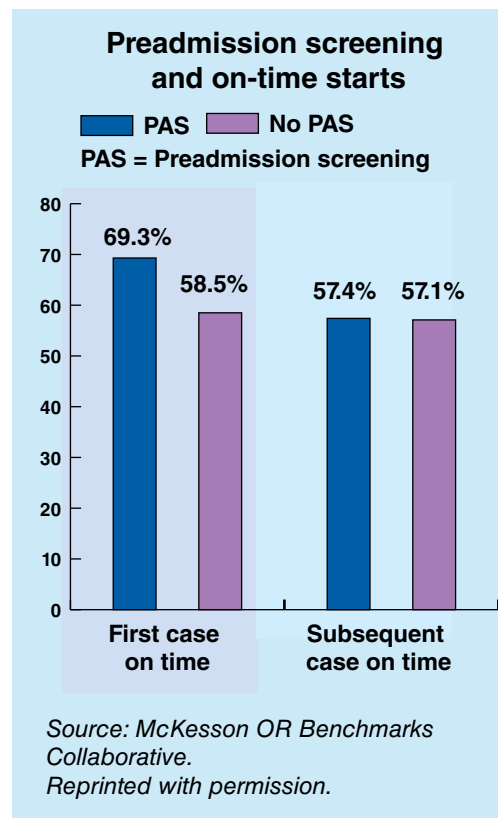
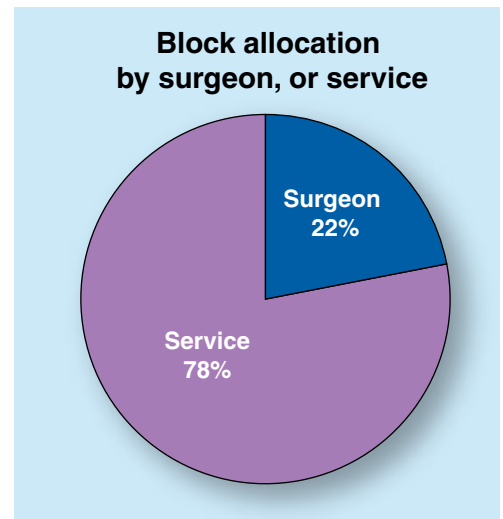
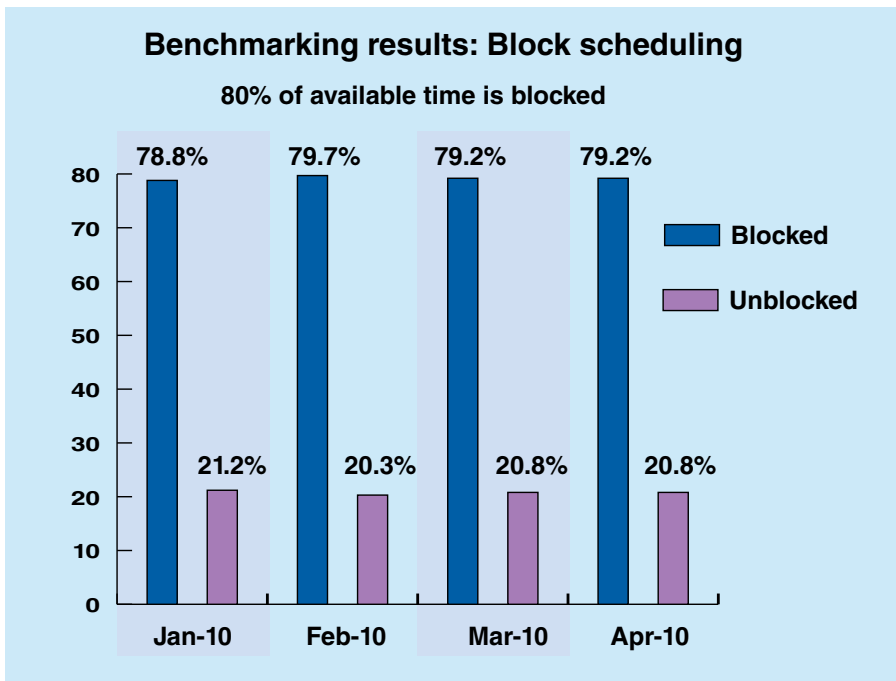
**Block scheduling**

A well-managed block schedule provides predictable operating times for high-volume surgeons and specialties, but blocks that are not managed well leave gaps in the schedule that hinder productivity.

The ORBC hospitals in the sample, on average, allocated 80% of their available OR time to blocks. Most of the block time (78% on average) was allocated to services rather than to the individual surgeon (22%).

Average block utilization was 82%, indicating ORs are managing their blocks fairly tightly. The top 5 service lines to which blocks are allocated are:





- orthopedics
- general surgery
- gynecology
- urology
- ophthalmology.

**Statistical correlations**

As part of the study, the QI Project used statistical modeling to examine correlations between performance and hospital characteristics such as country (US or Canada), facility type, and number of operating rooms.

Though the number of ORs had a complex relationship with most measures, in general, facilities with the most ORs showed a trend toward less efficient use of resources.

In highlights:

- US hospitals on average were 10 percentage points lower in scheduling accuracy than their Canadian counterparts.
- For turnover time, US hospitals took 15 minutes longer on average than Canadian hospitals.
- Acute care facilities have turnover times that average 22 minutes longer than ASCs.

**Preadmission screening boosts on-time starts**

Hospitals that conducted preadmission screening for 100% of their patients had a statistically significant higher rate (69.3%) of on-time first-case starts than hospitals that did not screen 100% of their patients (58.5%). But preadmission screening was not statistically associated with a significant difference in on-time starts for subsequent cases.

## **The OR Benchmarks Collaborative**

The OR Benchmarks Collaborative is an automated benchmarking service for surgery available by subscription from McKesson. Using web-based technology, ORBC subscribers upload their data monthly to the service where it is analyzed.

ORBC provides each subscriber with a dashboard that displays aggregated data on 20 key performance indicators. Subscribers can use the dashboard to track their own performance and compare their data with that of other subscribers. ORBC tools also enable them to drill into their own data for each indicator to see, for example, performance by specialty or surgeon.

As of October 2011, ORBC had 471 subscribers including acute care hospitals and ambulatory surgery centers in the US, Canada, Saudi Arabia, Australia, and New Zealand.

### **Time lost from cancellations**

The case cancellation rate was 1.7% for hospitals and 1.0% for ASCs. On average, hospital ORs lost 19 hours of surgery time per month because of cancellations, while ASCs on average lost 5 hours per month. The average time lost was much higher for hospitals in urban areas (21 hours/month) than for those in rural areas (6 hours/month) and other types of facilities (5 hours/month).

The data from the ORBC analysis offers benchmarks of actual performance from this sample of hospitals. It is information hospitals can use to see what others have achieved, gauge their own performance, and set realistic priorities and goals.❖

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More information on the McKesson OR Benchmarks Collaborative is at <http://sites.mckesson.com/orbc/webinars.htm>