What is a good OR utilization value for a surgical suite? What is too low or high?

Sixty percent is absurdly low, and 95% is too high. The range is too large to be useful, which is why the answer to the question is that analysis needs to be performed for each surgical suite. Usually, when someone is measuring utilization, this is for tactical decision making as described here and reviewed here. The reason for this is that utilization best applies when one considers ORs as being a fixed resource, not finishing late. That is fine from a "macro" perspective, which is quite suitable from a tactical perspective. This is quite absurd though from an operational perspective, especially on the day of surgery. The reason is that surgery is not stopped in the middle and for most specialties at hospitals there are too few cases per OR per day to cancel or move a last case of the day without causing substantial under-utilized OR time (click here and click here). ***Allocating OR time based on OR utilization is both logically and computationally flawed, and consequently will often give the wrong answer to the problem.*** Instead, OR time should be allocated based on minimizing the inefficiency of use of OR time. Click here for a lecture or click here for a review article. The latter considers not just under-utilized OR time (i.e., utilization), but also the higher cost of planning too little OR time resulting in more expensive over-utilized OR time. Whereas decision-making based on OR utilization relies first on knowing "what utilization is best," there is one single answer to best staffing based on OR efficiency and minimizing labor costs.

Another problem with asking for an appropriate OR utilization is that decision-making to minimize the inefficiency of use of OR time is weighted toward the reduction in the hours of over-utilized OR time, not a percentage. Consider a facility that has made a tactical decision to build one additional OR. Ideally this OR would be used initially as a first-come first-served unblocked open OTHER overflow room (click here). However, suppose that because of equipment or personnel requirements that a decision needs to be made between two services likely to use the time, service #1 or #2. The facility has workdays 10 hours long.

Consider service #1 with daily mean ± standard deviation of hours of OR time = 10 hours ± 2 hours, following a normal distribution. The allocation that maximizes the efficiency of use of OR time would be 1 OR for 10 hours. The daily mean hours of over-utilized OR time would be 0.8 hours. The daily mean hours of under-utilized OR time would be 0.8 hours. Those two results are from properties

of normal distributions. The mean adjusted utilization would be 92%, where 92% = 100% - (0.8 hours) / (10 hours).

Consider service #2 with daily mean ± standard deviation of hours of OR time = 50 hours ± 10 hours, precisely 5 times as large as that of service #1. The allocation that maximizes the efficiency of use of OR time would be 5 ORs for 10 hours (i.e., five times that of service #1). The daily mean hours of over-utilized OR time would be 4.0 hours (i.e., 5 times that of service #1). The daily mean hours of under-utilized OR time would be 4.0 hours (i.e., 5 times that of service #1). The mean adjusted utilization would be 92%.

Although the two services have the same adjusted utilization, service #2 could far better use the 1 extra OR than could service #1. This is evidenced by comparing the mean hours of over-utilized OR time.

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