

How can the cost savings from reducing operating room time and/or turnover times be calculated?

The impact of interventions on labor costs can be forecasted using each facility's data. Corresponding confidence intervals can also be calculated. For example, turnover times can be reduced between each case. [Click here](#) for a review article. Surgical times can be reduced to national average values for each procedure, as reported publicly for Medicare patients in the US. [Click here](#) for that article. The impact of new surgical procedures or anesthetic techniques can be modeled. For example, Oncura funded Dr. Dexter's development of an Excel program to assist hospitals in evaluating cryosurgical ablation products. [Click here](#) for another example. Regardless of the intervention, the analysis proceeds as follows. First, the labor cost is calculated assuming that OR time is allocated and cases are scheduled based on OR efficiency. [Click here](#) for a lecture describing precisely what this means. Second, the intervention is performed, thereby reducing OR workload for each of the services (i.e., surgeons, groups, or specialties) affected. Third, using the revised workload values, OR time is reallocated based on OR efficiency, and the new estimates for labor costs calculated. Fourth, the differences are taken. The result is consideration of two sources of variability for an OR schedule. One source of variability is differences in the durations of cases of the same procedure. Another source of variability is variation in the workload scheduled each day. [Click here](#) for a comprehensive bibliography of OR management articles studying the economics of time reduction.

Rather than applying this approach, naively treating the cost of OR time as a variable cost and estimating it by benchmarking is invalid for two reasons. First, the probability distributions (e.g., means and standard deviations) of the total hours of cases and turnovers in ORs differ significantly among ORs in the same hospital, and between ORs in which different drugs are used ([click here](#) and [click here](#)). Second, the probability distributions differ significantly among hospitals ([click here](#), [click here](#), and [click here](#)). For more details, see the sections in the [drug cost lecture](#) for analyses of the value of reducing ICU, PACU, and OR time.

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