Current vs. Optimized Workflow

Background: Mass. General staffs anesthesiologists and assign operating rooms to cover every scheduled surgery ahead of time.

Gaps & Opportunities

- Surgeons estimate surgery duration manually
- Estimating wastes surgeon time
- Fewer surgeries get done
- ~25 min average error
- Higher overtime costs

Business Impact

- Average surgeon's salary is $250K a year
- Getting a more accurate time estimate by 10 minutes per surgery will lead to monthly efficiency saving of about $2,600 per surgeon*
- Extra surgeries can be fitted in

  * $130 per hour (10 minutes @ 6 surgeries a day) × 20 working days

The Optimized Workflow

- Automated accurate scheduling estimations— Surgeons don't need to guess the surgery estimations anymore
- Surgery timing recommendations to fit in more surgeries and increase revenue
- Better, more reliable scheduling
- More accurate revenue forecasting

Opmed AI: Optimizing your schedule

Taking your data & complex constraints and turning it into a fully optimized scheduling system that frees up your **surgeons** time. Leading to a reduction in overtime costs and more efficient load balancing.

Key Results

Metric	Current Scheduling	Optimized Scheduling	Improvement
Total anesthetist cost	235.0	**205.12**	−29.88 (−12.7%)
# anesthesiologists used	28	**24**	−4 (−14.3%)
Average shift duration (hours)	7.4	**6.60**	−0.8 hours
Total overtime hours	40.0	**27.25**	−12.75 (−31.9%)

For the same set of surgeries, the optimized schedule reduces staffing cost and overtime while using fewer anesthesiologists.

- Assuming 29.88 saved hours per day × 260 days per year = about 7,769 hours saved per year
- If anesthesiologist hourly rate = $130/hr, then 7,769 hours saved × $130/hr = **~$1M in annual savings**

Cost Saving Opportunities

Room Efficiency

Our optimized scheduler was efficient enough to only require 15 active operating rooms even though 20 were available.
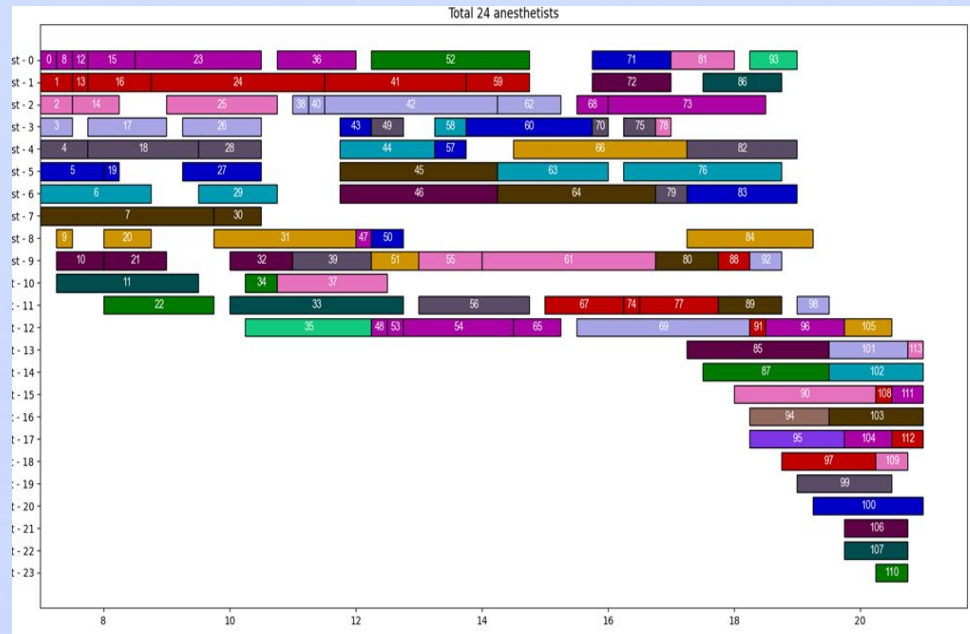
Immediate Opportunities

- Increase surgeries during peak overlap periods without opening extra rooms.

- Reduce the number of rooms used on days with lower demand, cutting down on operating costs.

Improved Staffing Utilization

Anaesthesiologist with minimum paid hours can be utilized more effectively by adding surgeries into underused time slots rather than hiring additional staff.

POC: Initial findings

Recommendations:

1 **Pull a few flexible cases earlier (when feasible)**

Move some late-day elective cases into earlier open time to smooth demand.

Benefit: fewer overlaps → fewer anesthesiologists needed and less wasted shift time.

2 **Keep a late-day buffer for true add-ons**

Reserve the last block of the day for urgent/unpredictable cases (not planned electives).

Benefit: fewer late finishes and lower overtime risk.

Next Steps

To build on the initial success, we recommend the **following steps:**

1

Tailor models to each department

Add finer constraints and customize the optimizer for the entire hospital, giving each department a different model for greater accuracy.

2

Compare to baseline

Analyze the optimizer's results against the hospital's current scheduling costs, overtime hours, and staffing.

3

Get demo UI access

Provide decision makers access to our demo interface to upload a surgery list and see the new optimized schedule firsthand.

As we continue, the optimizer will learn your workflows and **improve,** leading to even greater savings over time through enhanced scheduling accuracy.