

Optimizing Operating Room Workflow: A Quality Improvement Project

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E. Elkoumy¹ ,A.Zahra ², M.Elgazzar¹ ,A.Bahgat ² , M.Dadoua³

Department of Obstetrics and Gynecology¹, Department of Urology ², Faculty of medicine, MUST , 6th October, Giza, Egypt. 3 Obstetrics and Gynecology department, Health Plus center, Jeddah, Saudi Arabia



INTRODUCTION/BACKGROUND

Operating Room (OR) efficiency is critical for improving surgical throughput, patient outcomes, and hospital resource utilization. Delays and inefficiencies in OR processes, including prolonged turnover times and frequent first-case delays, have been widely reported.

OBJECTIVES/AIMS

The audit aims to assess OR efficiency by evaluating turnover times, first-case start times, OR utilization rates, and case cancellation rates, and to implement evidence-based improvements to meet established standards.

Methodology and Team Roles:

A quality improvement project at MUST University Hospital led by E. Elkoumy, project leader, first author, primary presenter, and coordinator evaluated OR efficiency metrics for 223 cases from December 2022 to February 2023. The focus was on turnover time, first case start time, OR utilization rate, and case cancellation rate. E. Elkoumy oversaw the implementation of interventions and ensured adherence to evidence-based guidelines included standardized turnover protocols, preoperative readiness checks, and data-driven OR scheduling. M,Dadoua, M.Elgazzar ,A.Zahra and A.Bahgat contributed with data collection and analysis , preparing reports, documentation and identifying area of improvement . A reaudit was conducted from June to December 2023 to assess improvements over 534 operations. Stakeholders from surgical teams and anesthesia were involved and provided feedback throughout.

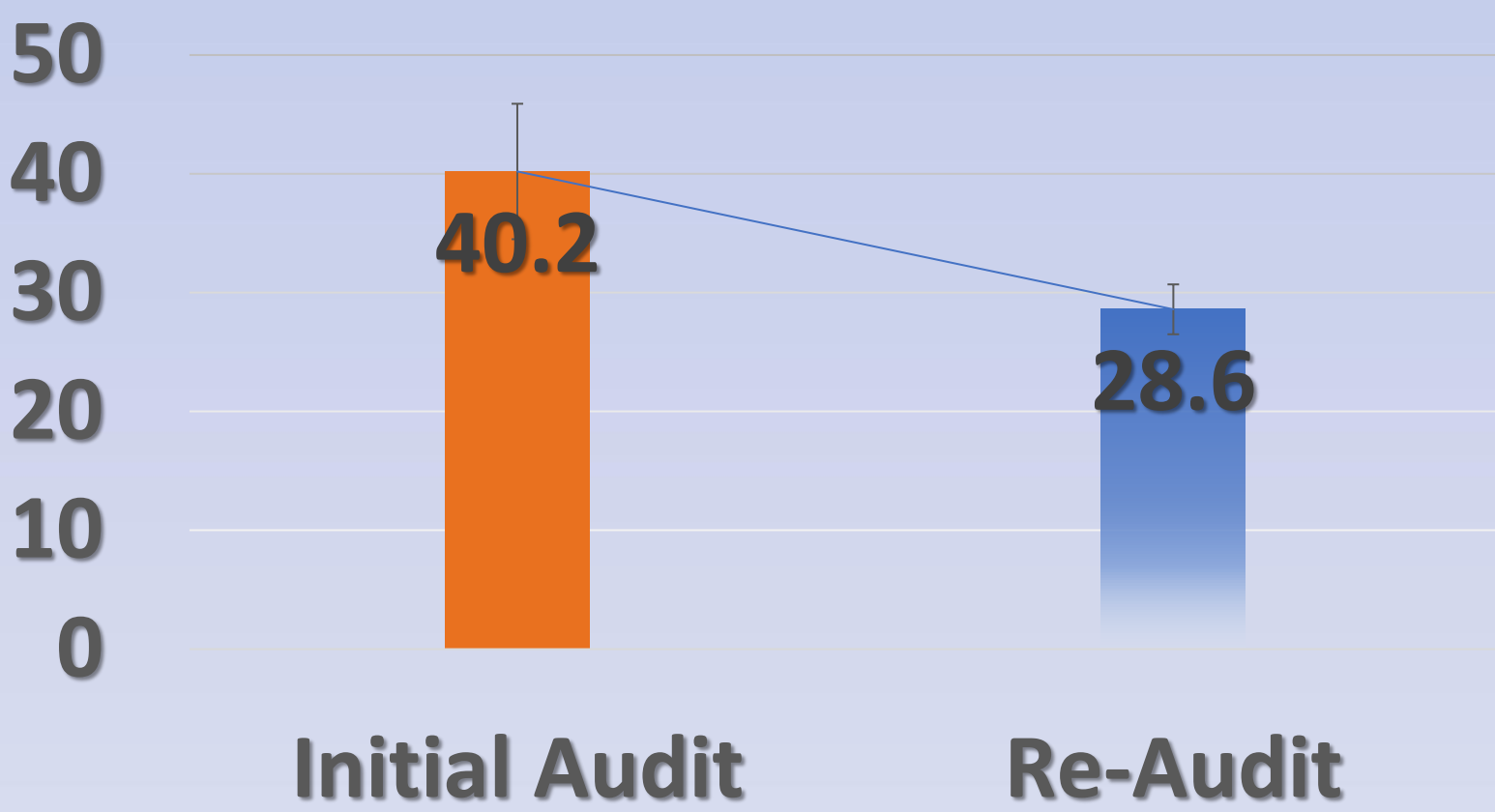
CONCLUSIONS

The audit and subsequent implementation of standardized protocols, preoperative readiness assessments, and optimized scheduling resulted in significant improvements in OR efficiency. By adopting a continuous quality improvement approach, the institution successfully met or approached key benchmarks, improving both operational performance and patient care outcomes.

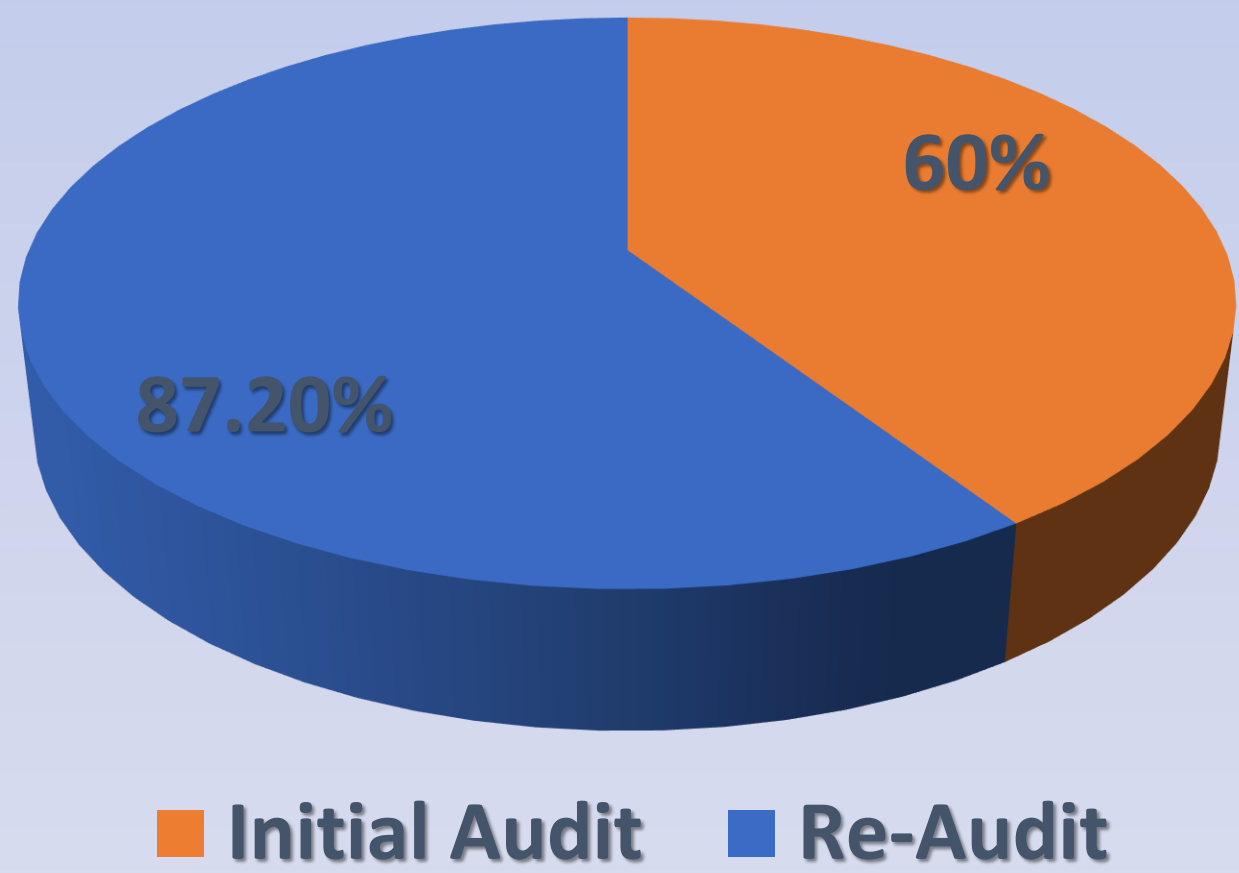
RESULTS AND PLAN

	Standard	Initial Audit	Intervention	Timeframe	Re-Audit
Turnover time	25-30 Minutes ¹	μ 40 minutes	Standardize OR turnover protocol with team huddles	checklist: 2 weeks, Training: initiate immediately	μ28 minutes
% of first cases on time	90%. ²	60%	Strengthen preoperative planning and anesthesia readiness	Select and implement software @ DMS international : 1 m	87%.
OR utilization	75-85% ³	70%	Use data-driven scheduling tools	checklist: 2 weeks, Rollout: initiate immediately	80%.
Case cancellation rate	<5%. ⁴	7%,	Implement preoperative checklist	Select platform: 1 month, Training: 2 weeks	4.5%.
Enhancing Communication	Introduce digital communication platform for real-time updates ⁵			Select platform: 1 month, Training: 2 wks	
Staff Training	Continuous education and simulation-based training ⁶			program: 2 months, Quarterly training sessions	
Equipment Management	Update and maintain surgical equipment inventory ⁷			Implement inventory system: 1-month, Monthly reviews	
Patient Flow	Optimize admission and discharge processes ⁸			Analyze and improve pathways: 2 m, Continuous monitoring	

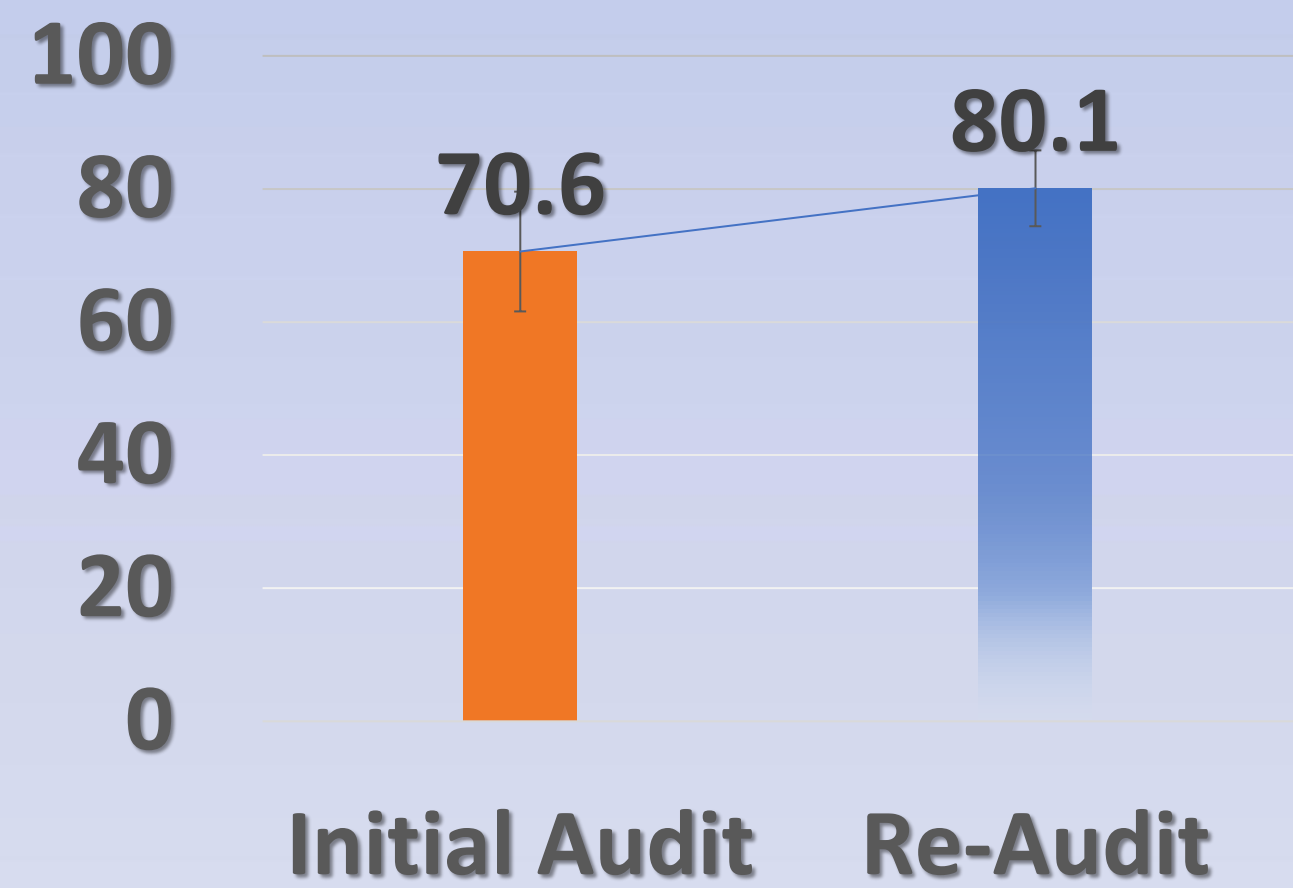
TURNOVER TIME



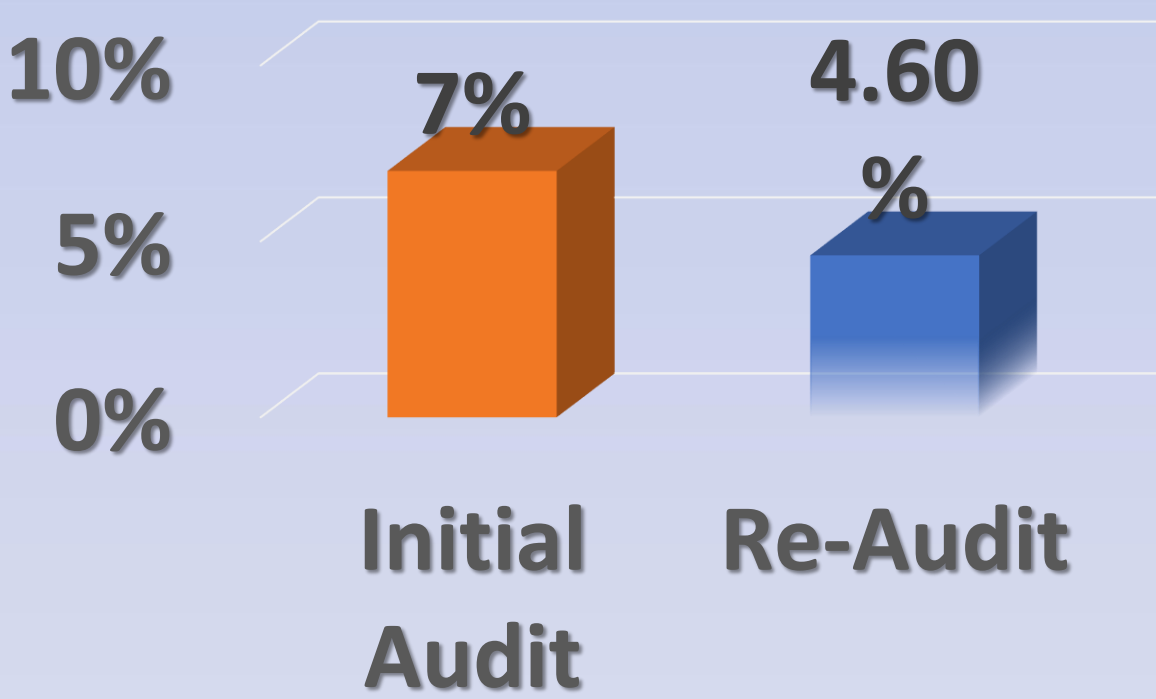
%of first cases on time



OR UTILIZATION



CASE CANCELLATION RATE



REFERENCES

- ¹ American Society of Anesthesiologists (ASA) Guidelines for Turnover
- ² Association of perioperative Registered Nurses (AORN) Best Practices for First Case Start Times.
- ³ American College of Surgeons (ACS).
- ⁴ Healthcare Financial Management Association (HFMA) Strategies for OR Scheduling Efficiency.
- ⁵ Joint Commission (2019) “Improving Communication in Healthcare”
- ⁶ IHI (2020) “Educational Strategies for OR Teams”
- ⁷ WHO (2018) “Managing Surgical Equipment”
- ⁸ NHS (2019) “Patient Flow Improvement Strategies”

CONTACT INFORMATION

Eslam Elkoumy (MSc , MRCOG) Assistant Lecturer.
Department of Obstetrics and Gynecology, Faculty of Medicine ,MUST university , Egypt.

Islam.Elkomy@skuh.must.edu
e_elkoumy@yahoo.com