

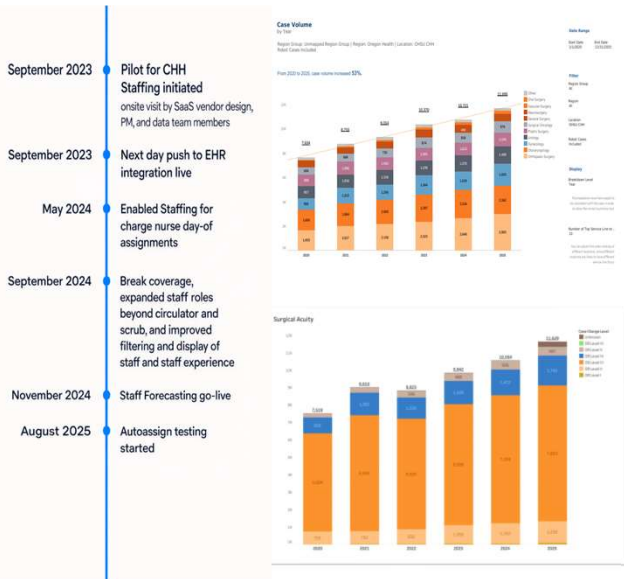


Optimizing OR Staffing with AI: Implementing a Data-Driven Staffing Platform in a High-Volume Ambulatory Surgery Center

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Where We Started

- Center for Health & Healing (CHH) Building 2 opened in 2019, with early growth interrupted by the COVID-19 pandemic.
- 2023 became the first year of stable, high-volume surgical scheduling, allowing the unit to evaluate true operational needs.
- OR teams had worked within familiar, service-specific lines, which limited flexibility as demand shifted.
- With surgical volume and complexity increasing (10,868 surgeries in FY2025), the unit identified a need to:
 - Improve cross-training to support broader service coverage
 - Optimize room assignments to match rising case acuity and volume
 - Build a more adaptable staffing model to support sustained growth



The Spark for Change

- As volume and complexity increased, ORs began hosting multiple service lines in one day, making scheduling more challenging.
- Service line coordinators (SLCs) manually built assignments daily, relying on their knowledge of:
 - Staff skills
 - Team dynamics
 - Case complexity
- Assignments could take 45–60+ minutes, especially when rooms were shared across specialties.

Manual Tracking Challenges

- Staff competencies and preferences were tracked in large, manually updated spreadsheets.
- Required constant cross-referencing with daily case needs.
- Created cognitive overload, leading to:
 - Inconsistent specialty coverage
 - Underuse of team expertise
 - High burnout in acuity-heavy rooms
 - Limited cross-training opportunities

What Became Clear

We needed a more intentional way to match rooms with real staff skills — and grow sustainable, transparent cross-training.

What We Set Out to Do

- Data-informed staffing: Optimize room assignments using staff case history and skill data from an AI-supported staffing tool.
- Reduce build time: Minimize daily manual planning burden for SLCs.
- Expand team versatility: Identify and promote cross-training opportunities across services.
- Enable real-time control: Support dynamic assignment updates by charge nurses and coordinators.
- Foster transparency: Increase staff clarity and engagement with visible, digital assignment tools.

Turning Insight Into Action

- Started with historical case data from the staffing platform to build informed daily assignments.
- SLCs used staff experience data to align team strengths with cases.
- Strategically selected staff with partial exposure for cross-training.
- Phased rollout: SLCs → Charge nurses → Centralized digital display.

Building Buy-In

- Weekly SLC-implantation team meetings enabled real-time platform improvements
- Nurse leaders offered hands-on support to charge nurses
- Relief and sick-call planning became more equitable and predictable
- Staff noted improved fairness and workflow transparency with visible assignments

Wins

- Operational Efficiency - Manual assignment time dropped by 25 hours weekly.
- Team Consistency - Team pairing consistency increased by 30%.
- Staff Coverage - Increased service line coverage by 30% across departments.
- Training Progress - Nursing leaders gained better visibility into training progress using integrated dashboards.

Lessons Learned

- Phased implementation, clear feedback loops, and visual transparency were critical for staff adoption.
- Real-time flexibility in staffing enabled operational consistency
- Empowering charge nurses and coordinators to make real-time adjustments supported consistent operational flow.

What's Next

- Transition from paper to fully digital assignment workflows
- Expand cross-training pathways for smaller or growing services
- Refine auto assign logic to balance versatility and specialty expertise
- Share staffing insights across perioperative leadership
- Monitor staff equity, fatigue, and development using data

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