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CASE STUDY

Agentic AI for Workforce Planning and Talent Acquisition- Predictive Scheduling

Case Study: Predictive Scheduler

Company: Providence
Services Provided by: Ed West, Partner in Halcyon Northwest
Focus Area: Agentic AI for Workforce Optimization in Healthcare

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Executive Summary

Halcyon Northwest Partner Ed West worked with Providence to address persistent challenges in nursing productivity and scheduling efficiency. By deploying an agentic AI–powered predictive scheduling solution, he helped Providence establish data-driven staffing baselines, streamline scheduling workflows, and materially improve productivity and employee satisfaction. The initiative delivered a 17% increase in nursing productivity, while unlocking millions of dollars in potential savings.

Situation

Providence, like many large healthcare systems, faced mounting pressure to balance patient demand, labor costs, and clinician satisfaction. Key challenges included:

- **Underperforming nursing productivity:** Nursing productivity was consistently below internal targets and lagged peer benchmarks across multiple departments.
- **Significant cost exposure:** Leadership identified millions of dollars in potential savings tied to better workforce utilization.
- **Inefficient scheduling processes:**
    - Nurses struggled to find shifts that aligned with their availability and preferences.
    - Nurse managers and schedulers faced manual, time-consuming processes to adjust schedules, respond to volume changes, and maintain coverage.
- **Limited data-driven insight:** Staffing decisions were often reactive and based on static assumptions rather than true demand patterns.

These issues contributed to operational inefficiency, manager burnout, and reduced employee satisfaction.

Solution

Ed West and Providence implemented an **agentic AI–driven Predictive Scheduler** designed to augment human decision-making rather than replace it.

Key elements of the solution included:

- **AI-derived baseline staffing models:**
  An AI application analyzed historical patient volume, acuity, and workload patterns to determine each department's *true baseline staffing needs*, replacing legacy assumptions with empirically grounded insights.

- **Predictive, weekly scheduling recommendations:**
  The agentic AI generated forward-looking staffing and scheduling recommendations on a weekly basis, dynamically adjusting for expected demand fluctuations.
- **Human-in-the-loop governance:**
  Nurse managers retained control, reviewing, approving, and posting AI-generated schedules—ensuring clinical judgment, local context, and trust remained central to the process.
- **Workflow simplification:**
  The solution reduced manual scheduling complexity, making it easier for nurses to find appropriate shifts and for managers to implement changes quickly and confidently.

Results

The engagement delivered measurable and meaningful outcomes:

- **17% increase in nursing productivity**, closing gaps versus peer benchmarks
- **Improved scheduling efficiency**, reducing administrative burden for managers and schedulers
- **Higher employee satisfaction**, driven by more predictable, accessible, and fair scheduling
- **Millions of dollars in savings opportunity identified**, through improved alignment of staffing with actual demand

Why It Matters

This case demonstrates how agentic AI can be applied pragmatically in complex, human-centered environments like healthcare. By pairing advanced analytics with human oversight, Providence achieved operational gains without sacrificing clinician autonomy or trust.

Learn More

Explore how Halcyon's AI Innovation and Transformation Services can support your organization's goals:

Edward D. West
Halcyon Northwest
ed@halcyonnw.com
206-992-8805

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