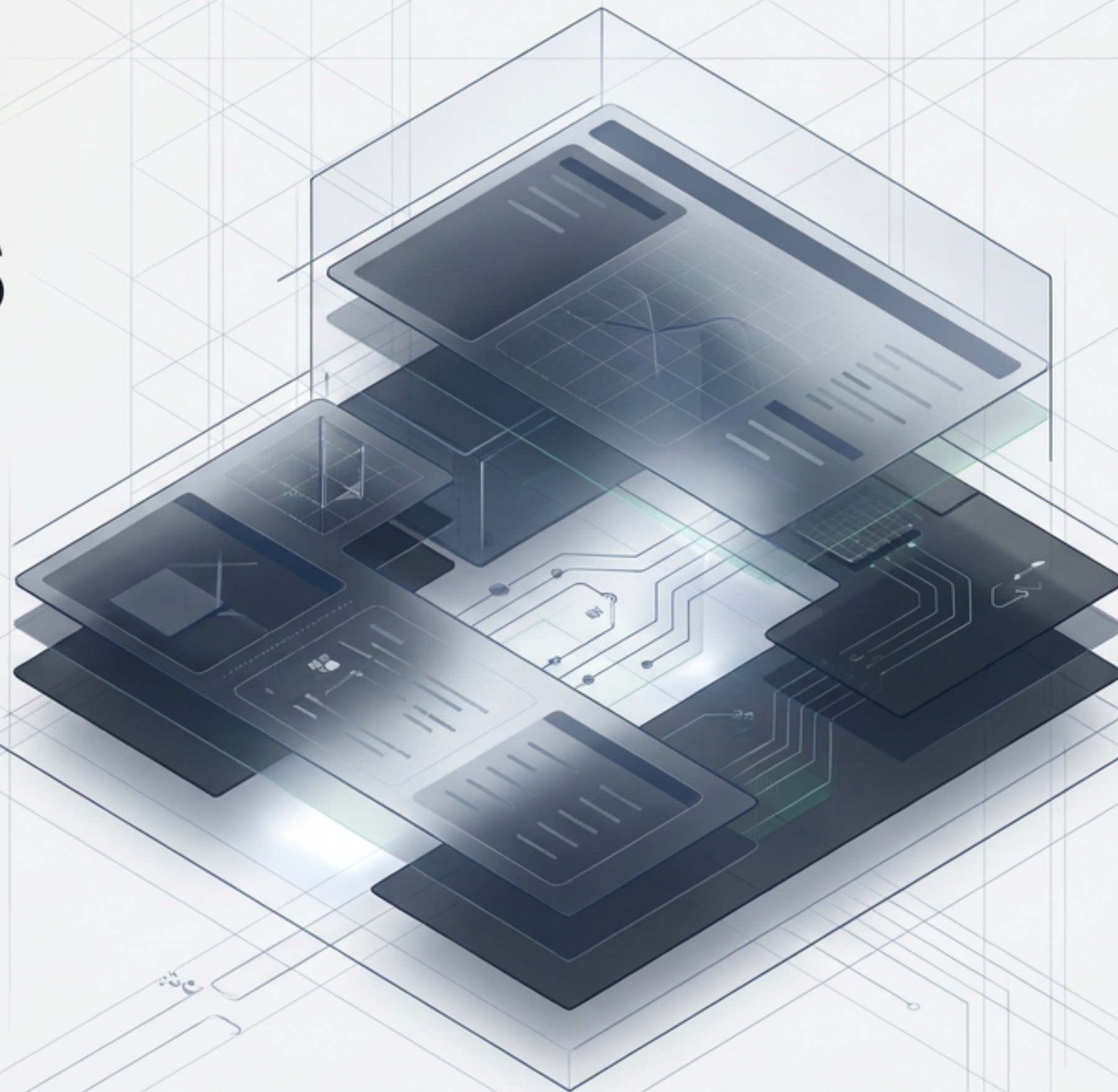


USHIOP Project Nexus

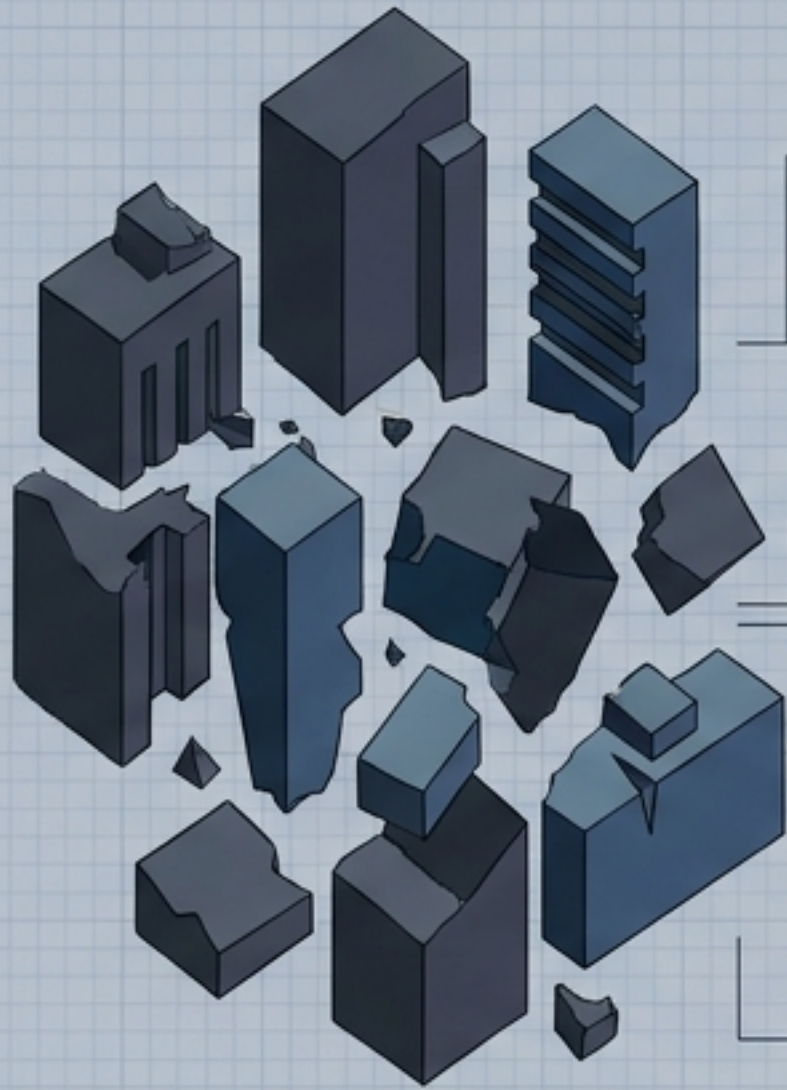
The Unified Singapore Health
Intelligent Operations Platform

Moving from reactive reporting
to predictive, AI-augmented
healthcare operations.

Version 1.0 Executive Briefing



THE OPERATIONAL SILO



Tertiary Hospitals (Epic/Cerner)

High-fidelity inpatient data,
disconnected from downstream care.

Community Care (AIC Systems)

Step-down and long-term care
visibility, isolated from acute settings.

Primary Care (CHAS GPs)

First point of contact data, lacks
integration with hospital records.

Workforce & ERP (Kronos/SAP)

Resource management and scheduling,
separate from clinical workflows.

CEOs **lack real-time visibility**.
A&E consultants cannot see community bed availability.
Blind spots across the patient journey.

RIGHT CARE, RIGHT PLACE, RIGHT TIME

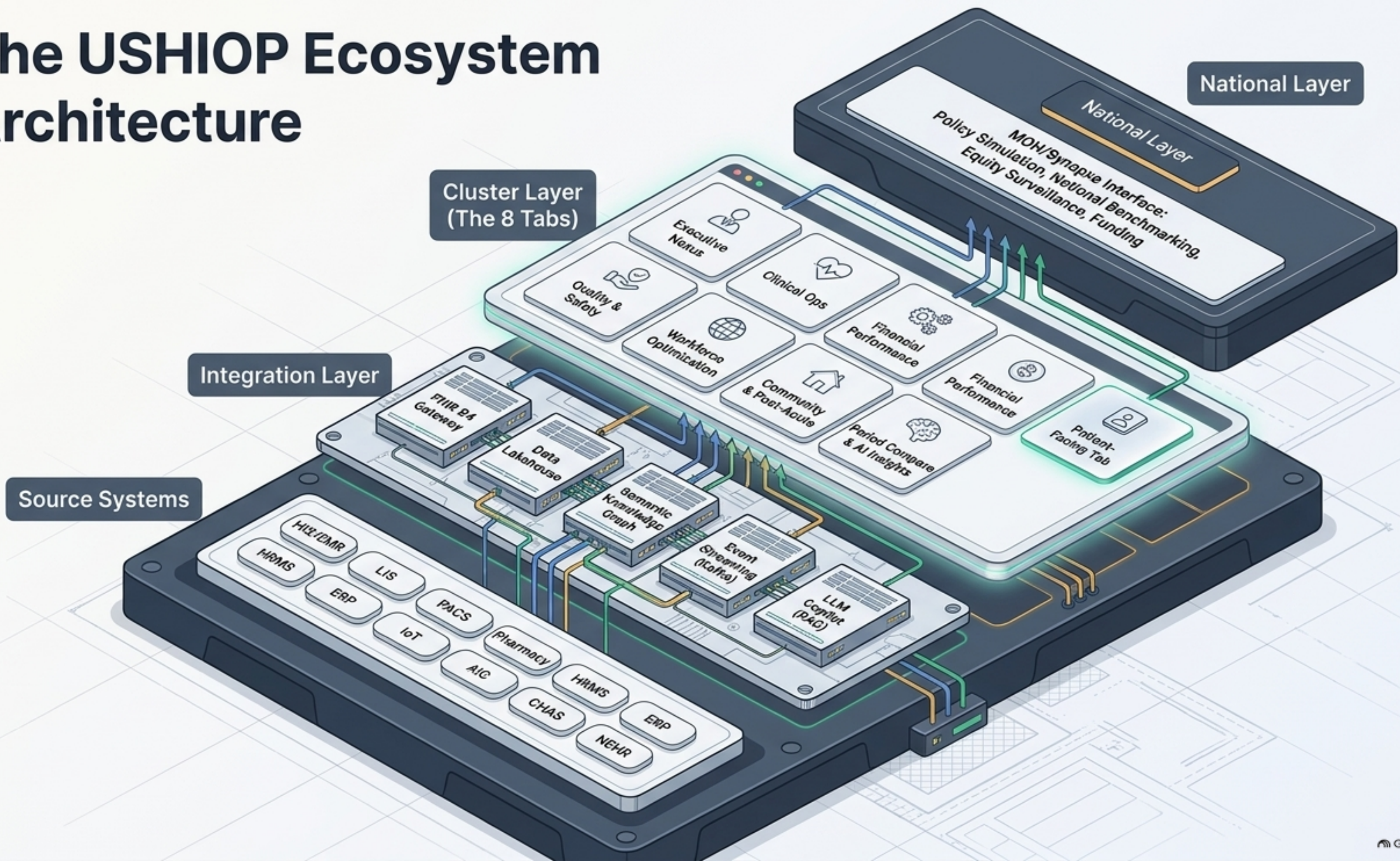


A **unified ecosystem** providing a **single pane of glass**
for all decision-makers, seamlessly connecting
tertiary, community, and home-based care.

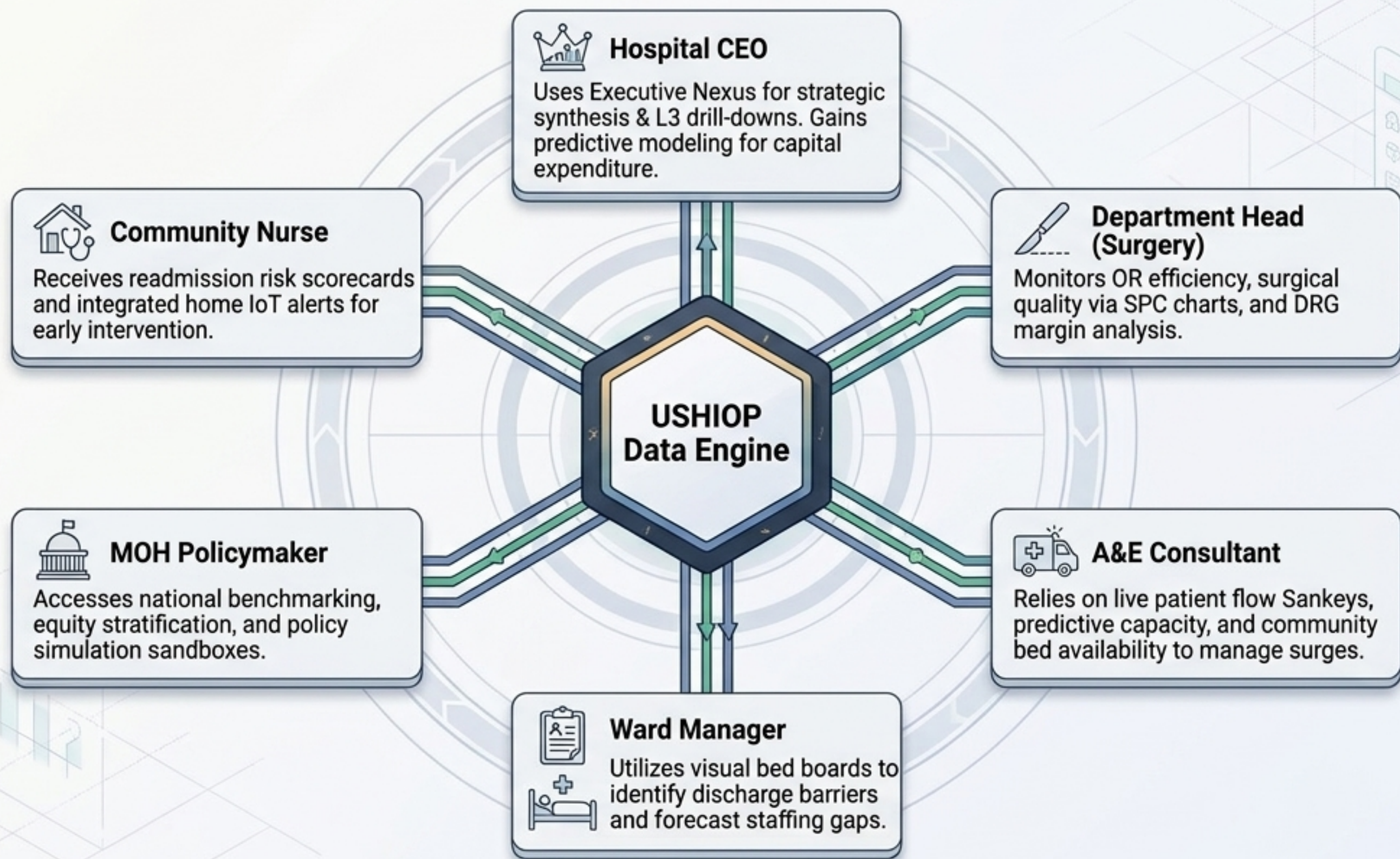
The Paradigm Shift: From Fragmented Reality to Intelligent Future

Operational Dimension	Current State (Fragmented)	USHIOP Vision (Intelligent)
Data Architecture	Disconnected Data Silos (Partial info)	Semantic Knowledge Graph (360° visibility in <10 seconds)
Management Style	Reactive Crisis Management	Predictive Operations (24-48h early warning window)
Reporting Load	Manual Compilation (40+ reports, 15-20 hours/week)	Automated Narrative Generation (80% time reduction)
Clinical Alerts	Alert Fatigue (Clinicians ignore 70%)	ML-Based Suppression & Tiered Notification (60% reduction)
Public Health	Equity Blindness	Equity-by-Design (Mandatory demographic stratification)

The USHIOP Ecosystem Architecture

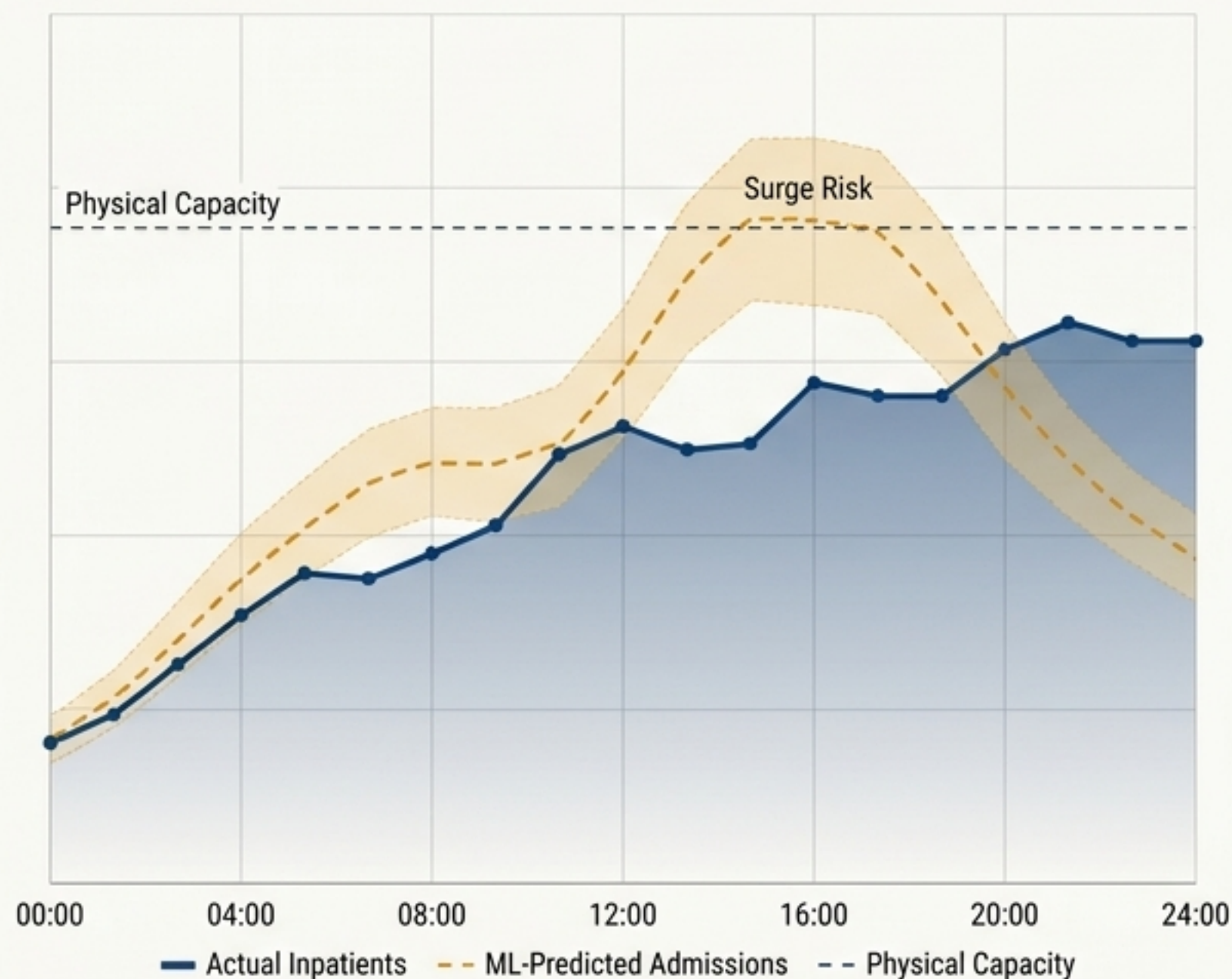


Stakeholder Value Matrix: One Truth, 360° Visibility

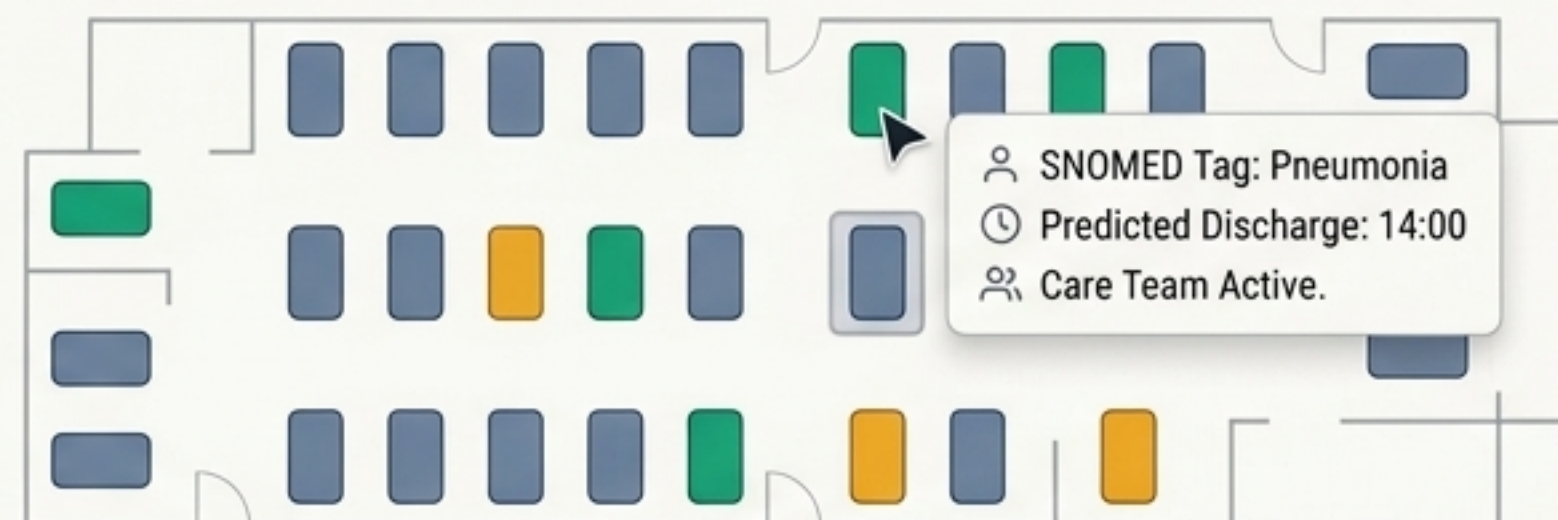


Core Capability I: Real-Time Patient Flow & Capacity

24h Live Census



Interactive Bed Board

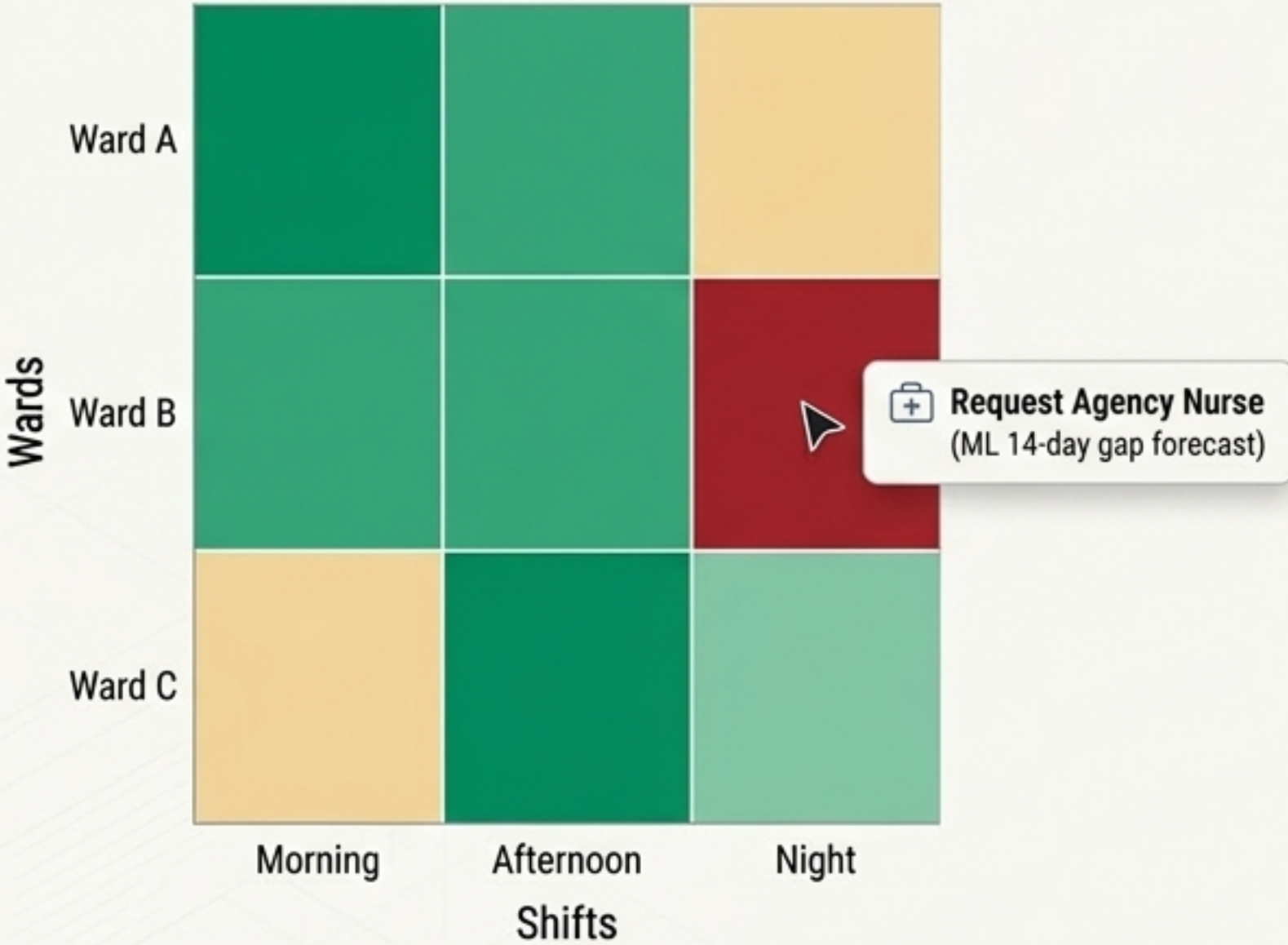


Actionable Discharge Funnel

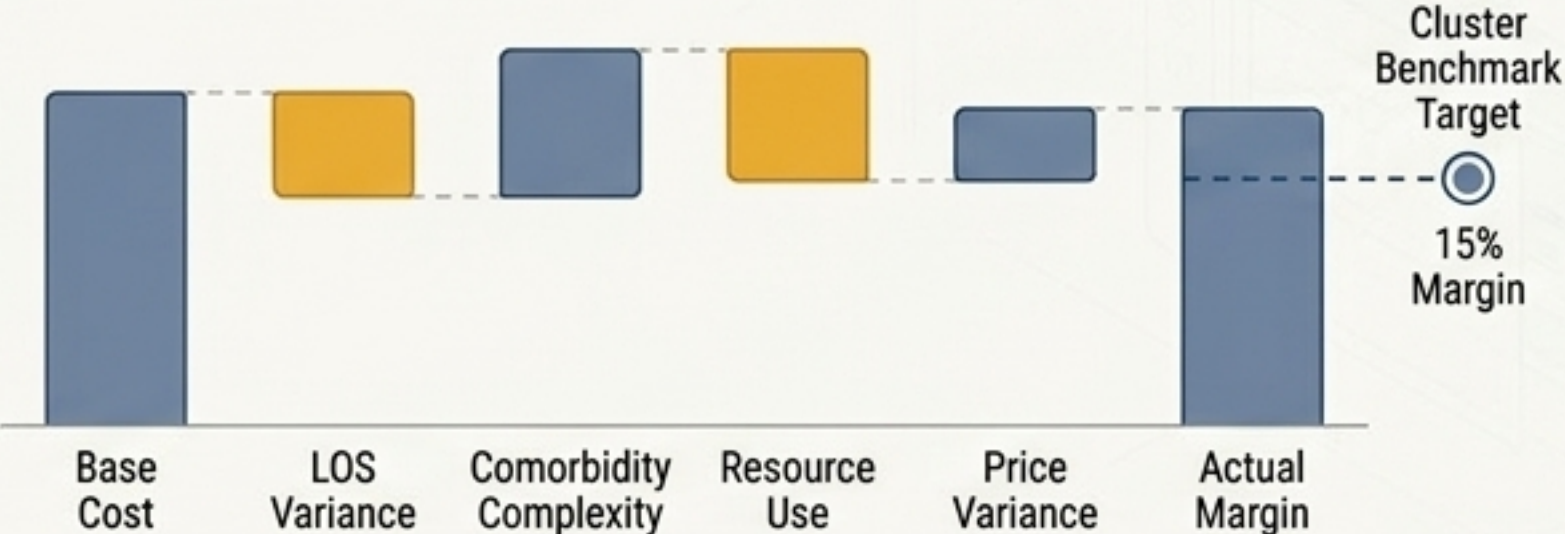


Core Capability II: Resource & Financial Optimization

Workforce Optimization (Nurse-Patient Ratio)



Financial Casemix (DRG Margin Waterfall)



Cost per WAU by Department



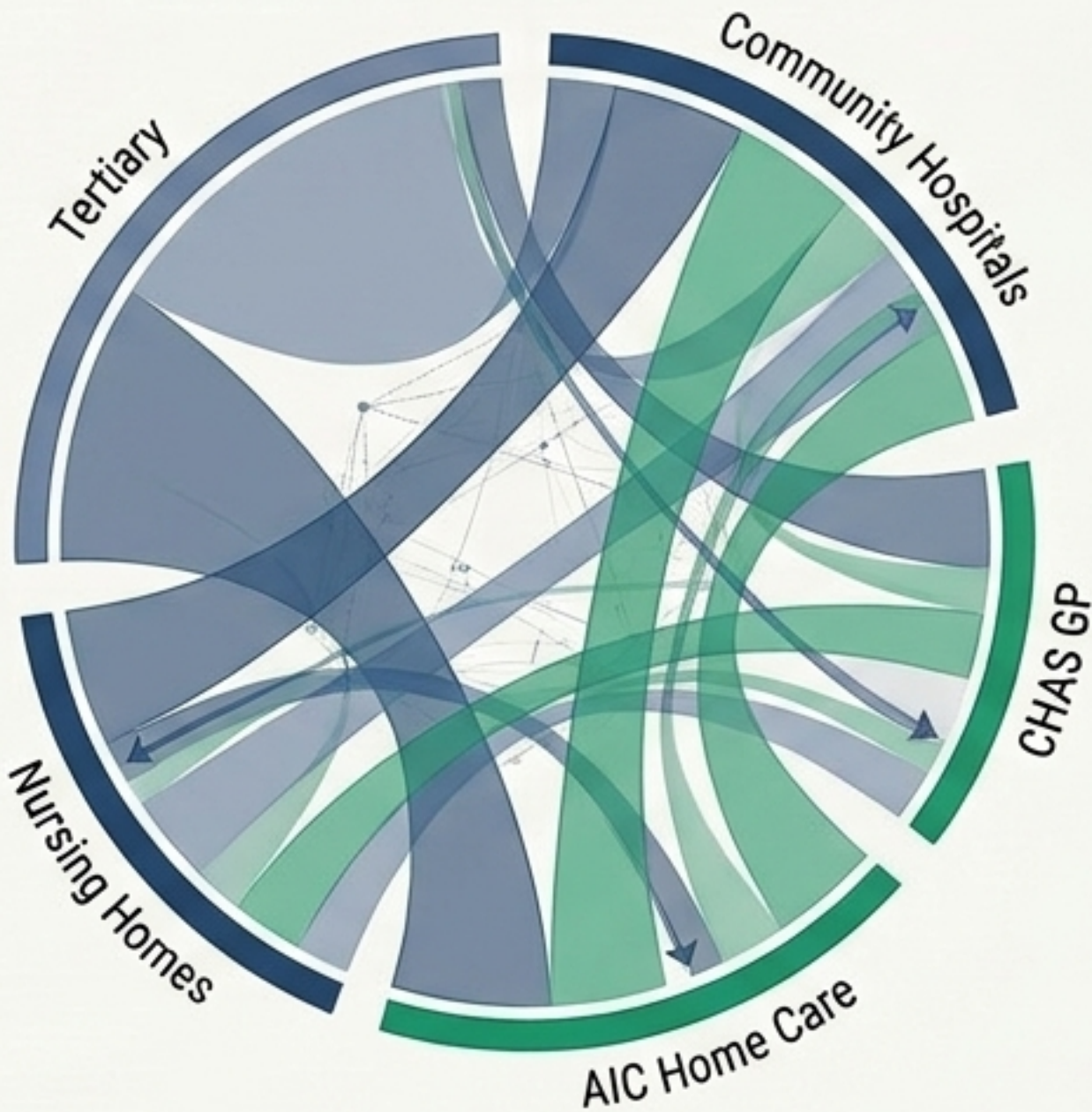
Core Capability III: The Continuum of Care

Community Intelligence

Readmission Prevention Scorecard

Patient ID	Risk Score	IoT Alert
PT-882	0.89 (High) 	BP Critical 
PT-104	0.65 	Glucose Warning
PT-992	0.21 	Stable

Referral Volume Flow



Patient-Facing Interface

My Health Journey



The Engine: AI Copilot & Intelligent Synthesis



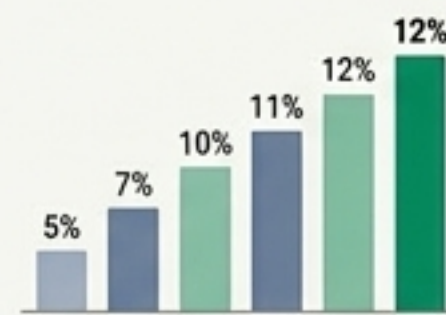
Floating Action Button (FAB)



Generate a variance narrative for MoM A&E admissions.



Admissions increased by 12% driven by a spike in respiratory cases in District 4. [Citation 1]. Would you like to view the demographic breakdown?



Human-In-The-Loop (HITL) Guardrails

- ✓ Refuses clinical diagnosis requests
- ✓ Blocks unauthorized PHI access
- ✓ Requires human confirmation for action suggestions
- ✓ Logs all natural language queries for audit

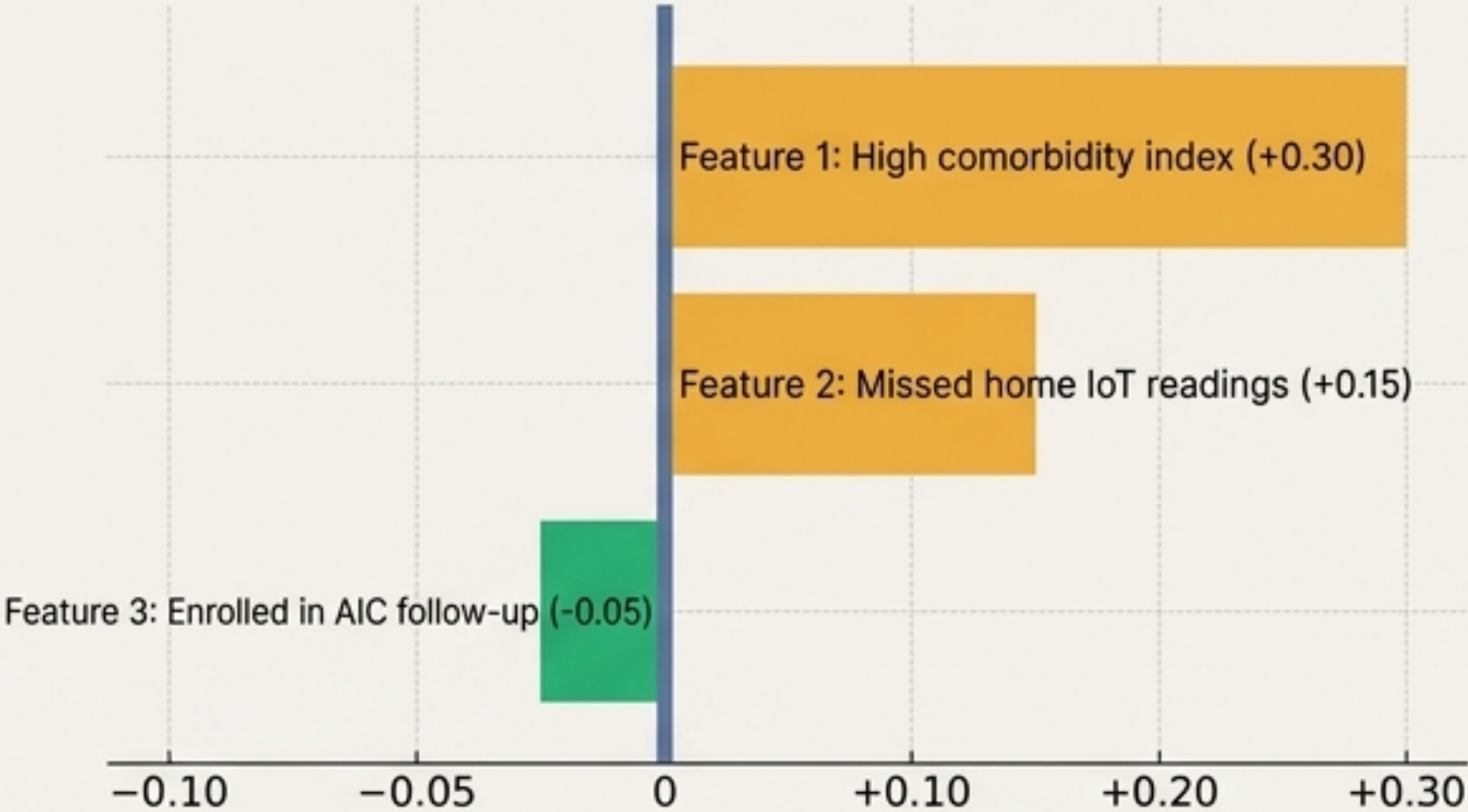
The AI Copilot Loop: Explainability & Trust

Model Inventory Matrix

Model Name	Output
Capacity Forecaster	Occupancy % (24-48h ahead)
Readmission Risk	0-1 Score + Top Factors
Discharge Readiness	Probability by date/time
A&E Demand Surge	Volume by triage (48h ahead)
No-Show Predictor	DNA probability for overbooking

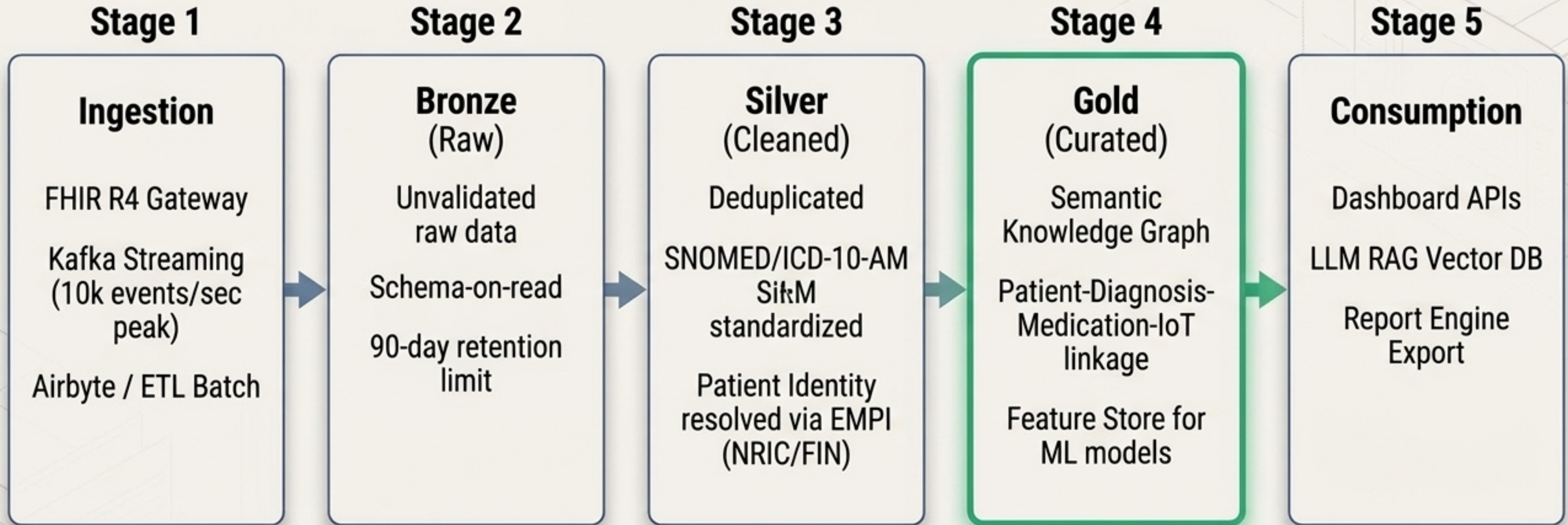
Explainable AI Visual

SHAP Value Breakdown: Defeating the Black Box
Prediction: Readmission Risk = 0.82



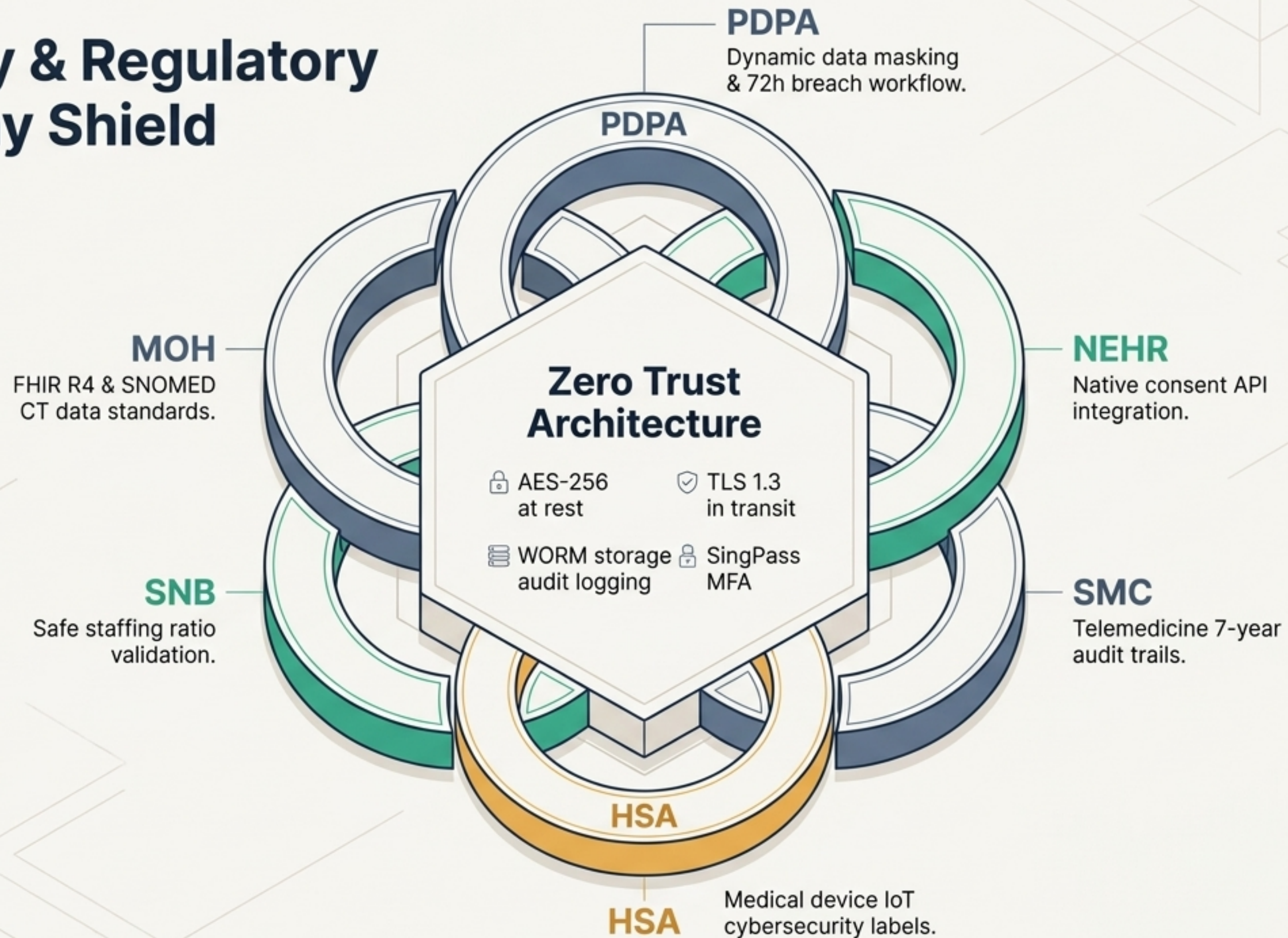
Aligns with SMC Ethical Codes by presenting confidence intervals and demanding HITL confirmation.

The Data Lakehouse & Integration Engine

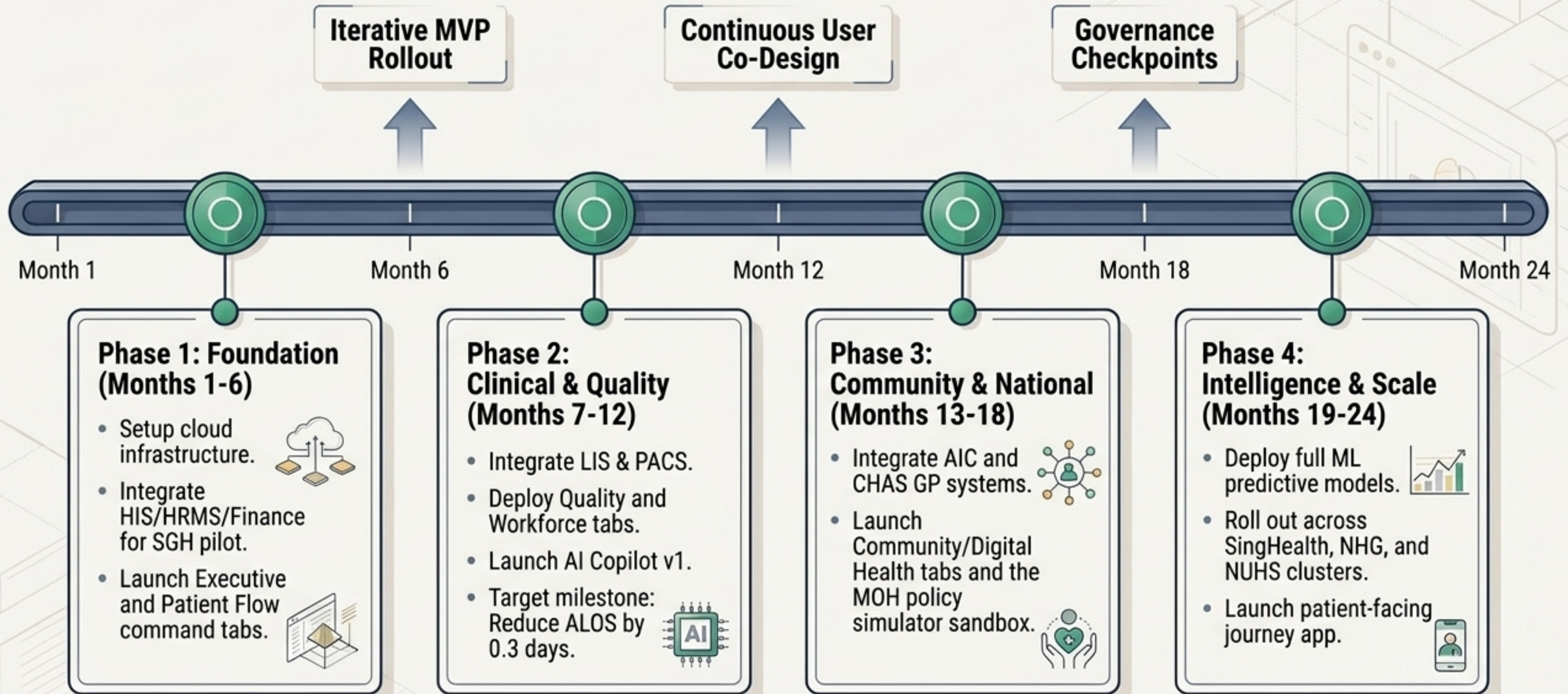


End-to-End Enterprise Master Patient Index (EMPI) Traceability & Governance

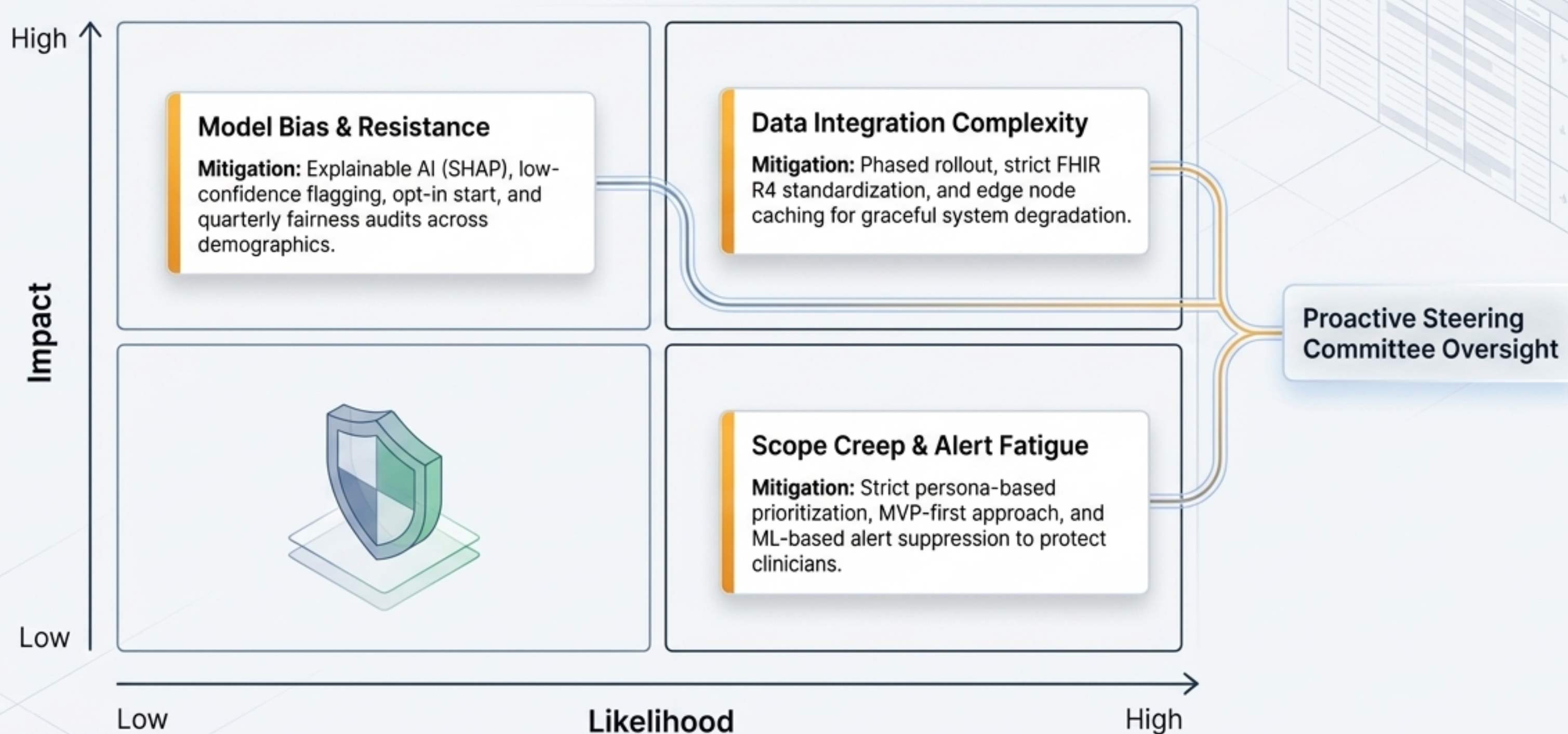
Security & Regulatory Harmony Shield



Implementation Roadmap (24 Months)



Risk Governance & Mitigation Strategy



Expected Outcomes: The ROI of Project Nexus

15-20% ↑



Reduction in A&E boarding time via predictive bed management.

30% ↑



Reduction in manual report compilation through AI synthesis.

25% ↑



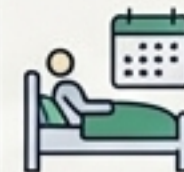
Faster identification and resolution of operational discharge barriers.

8-12% ↑



Improvement in OR utilization via dynamic block scheduling.

-0.5 Days ↓



Reduction in Average Length of Stay (ALOS).

USHIOP: A smarter, unified healthcare system, designed for Right Care, Right Place, Right Time.