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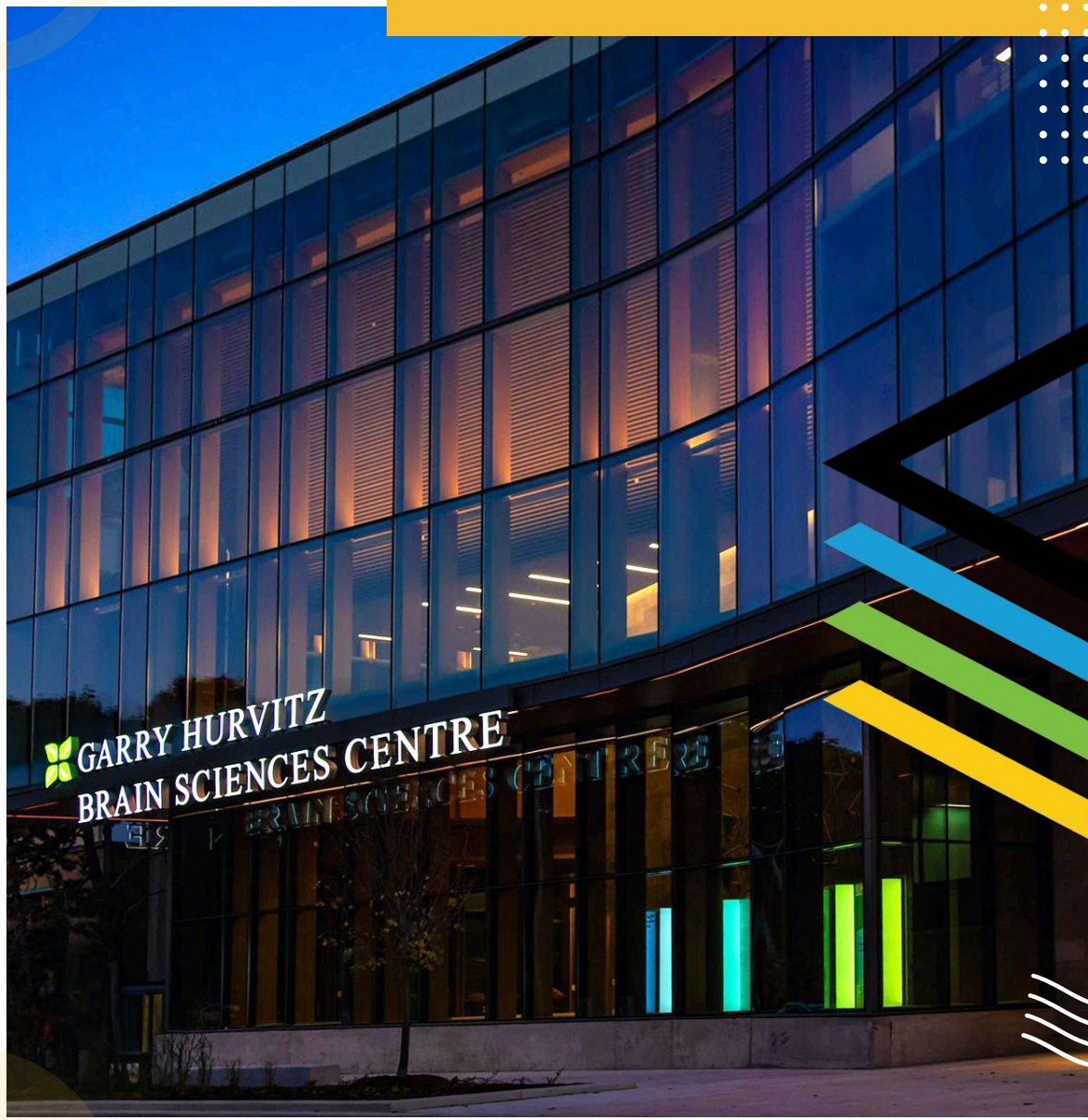
INTEGRATING NEW TECHNOLOGY TO IMPROVE SPACE UTILIZATION AT SUNNYBROOK HOSPITAL



Date: May 4, 2026

Presenters: Akira Jones and Carol Robinson

Your Presenters

Akira Jones

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Session Overview

1. Context and Problem
2. Approach and Strategy
3. From Data to Real-World Application
4. Challenges and Planning Considerations
5. Utilization and Operations
6. Results and Tools
7. Impact and Lessons
8. Q&A

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The Pressure on Healthcare Facilities

The System Level Challenge

01 **Aging Infrastructure**: Legacy and new facilities coexist, creating fragmented care environments

02 **Evolving Care Models:** New clinic delivery models require technology-enabled support

03 **Workforce Constraints**: Physician/Staff workflow preferences make efficient space use critical

04 **Capacity mismatch**: Designed capacity vs. actual use—decisions driven by assumptions, not data

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From Assumptions to Evidence

Why Occupancy Intelligence?

Traditional Planning

- Schedules based on assumptions
- Periodic manual audits
- Lagging indicators
- Reactive decision-making

Near Real-Time Occupancy Intelligence

- Visibility into actual use
- Dynamic decision-making
- Continuous feedback loop
- Evidence-based planning

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Starting Where the Pain Was Greatest

Phase 1 — Legacy Space Pilot

The Challenge

Older clinical areas face bottlenecks and unpredictability, addressed by discreet occupancy sensors capturing real usage data.

The Discovery

Rooms are often underutilized due to mismatches between scheduling and actual usage, leaving significant hidden capacity untapped.

Impact

The impact includes reallocating resources without additional capital spend, while also demonstrating a successful proof of concept.

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From Pilot to Strategy

Scaling the Approach

Pilot Success

Results from legacy spaces validated the approach and demonstrated clear return on investment.

Trust in Data

Stakeholders gained greater confidence in sensor-driven insights as the data proved reliable and actionable.

Scale to New Builds

A decision was made to embed intelligence into upcoming clinical fit-outs using data-driven occupancy insights.

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Phase 2 — New Clinical Fit-Outs

Embedding Intelligence into New Spaces

Barzakay Brain Health Clinic

Technology

- 3D stereo-optic sensors
- Integration into Angus Remote Management System (ARMS)

Cipriano Clinic

Key Capability

- Exam room utilization
- Peak demand patterns
- Scheduling behavior

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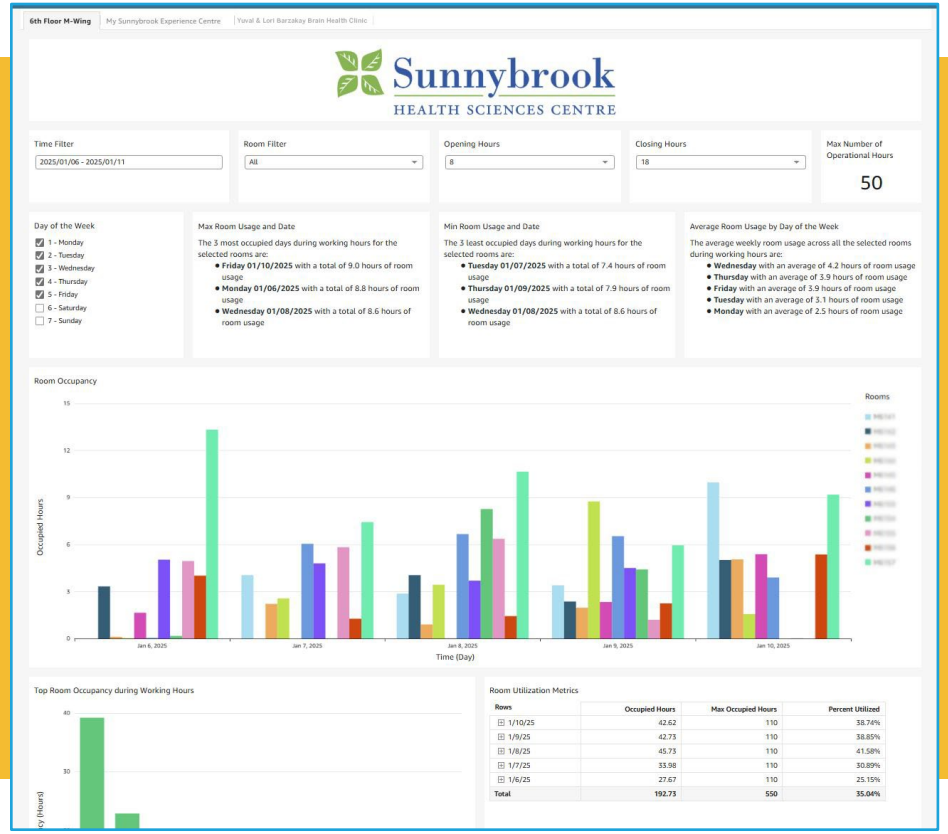
From Data → Action



At this point, we had the data. The real question was — how does this actually change how clinics run day-to-day?

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Hurvitz Brain Science Outpatient Care Centre

26

- Exam rooms

2

- Reception and waiting areas

2

- Procedure rooms

3

- Team conference rooms

1

- Patient family education centre

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GHBSC Barzakay Brain Health Clinic

15

- **Plan to transition 14 (now 15) private physician-led outpatient neurology clinics to hospital-led clinics.**

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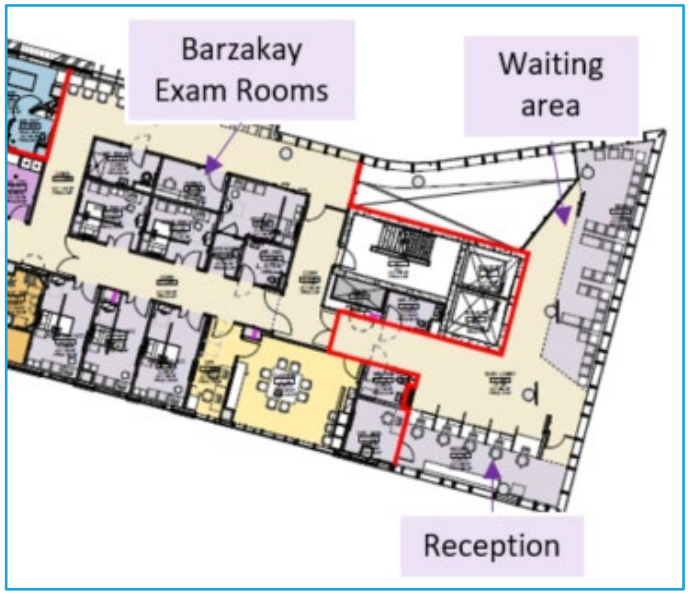

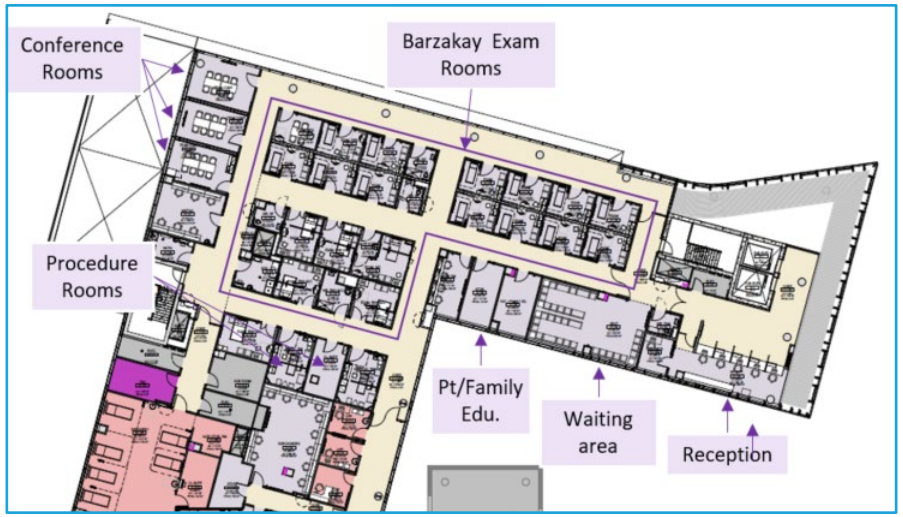

Key Challenges & Considerations

Prior State:

- 15 clinics dispersed across Sunnybrook campus
- Privately run with non-Sunnybrook support staff
- Decentralized referral and intake process
- No accepted standard for electronic health records
- Lack of clarity in data definitions to track volumes and utilization
- Limited space and lack of modern amenities for patients
- Limited knowledge of digital solutions for innovative ambulatory care
- Lack of governance and oversight model

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Running a Clinic Before Occupancy Data

Scheduling

- Limited visibility into actual room use
- No real-time feedback mechanisms

Daily Friction

- Delays and idle rooms
- Overcrowding in some areas
- Staff frustration and workarounds

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New Funding is Dependent on Volumes

Post Construction Operating Plan (PCOP)

- To secure additional funding from the Ministry in support of incremental activity in the new building, Sunnybrook and the MOHLTC established target volumes for various outpatient areas as part of the functional plan.
- The agreed-upon target for outpatient neurology services is 21,763 patient visits by the end of Year 6.

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Outpatient Care Planning Principles

Key Features:

- Modern outpatient space co-designed with staff, Physicians, and patients
- “Hoteling” model for Clinics – monitored for efficiency to maximize utilization
- Bringing together patient care services and specialist teams currently dispersed across the organization
- Transition of 15 private clinics into hospital clinic
- Dedicated Sunnybrook clerical, management and health professional staff
- Centralized Scheduling and Registration completed by Sunnybrook staff
- Effective Referral Management- paperless, standardized referrals & intake process
- Strong patient and family engagement
- Consistent and accessible clinical volume/data capture
- Common, integrated EHR

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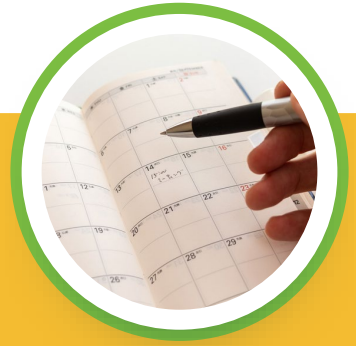
Monitoring and Optimizing Clinic Utilization

Feasible

Reduce in-clinic wait times — better patient and staff experience

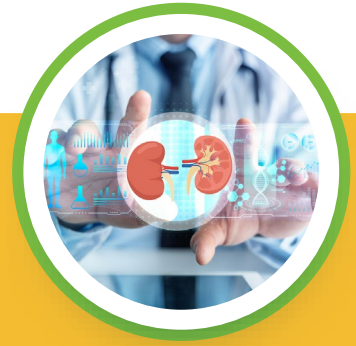


Automated

Validate clinic assignments in the master schedule to optimize resources

Accurate

Enhance the “hoteling” model’s efficiency to maximize use of space



Available Analytics

Provide data transparency for leadership decision-making

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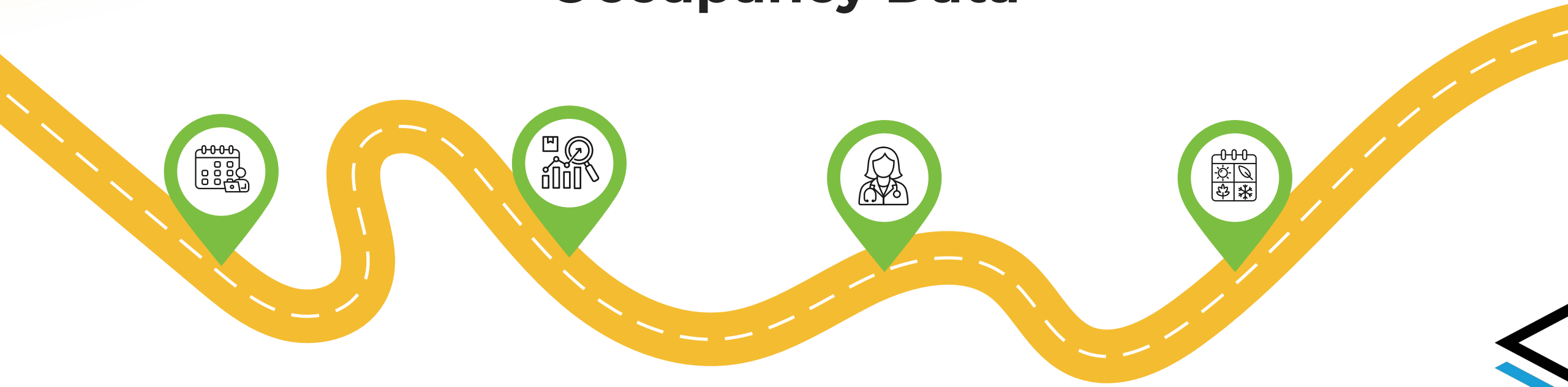
A Day in the Clinic with Occupancy Data



Schedule Adjustments

Adjusting schedules based on actual usage patterns

Peak Demand Analysis

Identifying peak periods by week, month, and year

Physician Availability

Responding to physician schedules, academic time, and learners

Seasonal Variation

Accounting for seasonal shifts in patient volumes

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ARMS Dashboard

Situation

Two clinics requested additional exam rooms, believing they had outgrown their current allocation.

Dashboard Finding

Utilization was 40–60% and un-reflected in schedules; group rounding left rooms empty.

Resolution

Encouraged staggering appointments to use space more efficiently — rather than assigning more space.

Outcome

Clinics improved room utilization without expansion by staggering appointments, reducing idle room time.

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Outcomes

Visibility

Clear view of how space is actually being used across all clinics.

Confidence

Data-backed decisions replace gut feelings and assumptions.

Reduced Guesswork

Evidence replaces anecdote in resource allocation.

Met Year 6 Volume Target in Year 1

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Optimization in Practice

Improving Exam Room Utilization

Space as a valued resource: defining criteria for assignment and tracking against actuals.

Smoothing Clinical Operations

From 15 physician-led clinics to a hospital-led model with an optimized hoteling approach.

Reducing Bottlenecks

Poor space optimization should never be a contributor to long wait times for specialty services.

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What Changed?

Impact on Staff and Patients

For Patients

- Shorter waits
- Smoother experience

For Staff

- Less stress
- Better predictability

For Leadership

- Data-backed decisions
- Clear utilization metrics

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WHAT MADE IT WORK

Lessons Learned

Start with Real Problems

Technology-first approaches don’t stick — begin with operational pain points

Collaborate with Implementation

Continuous partnership between clinical operations and the tech team

Iterate Continuously

Even the best-designed clinic isn’t optimized on day one — takes ongoing oversight

Data-Driven Decision Making

Space criteria aid assignments and support ongoing organizational utilization discussions.

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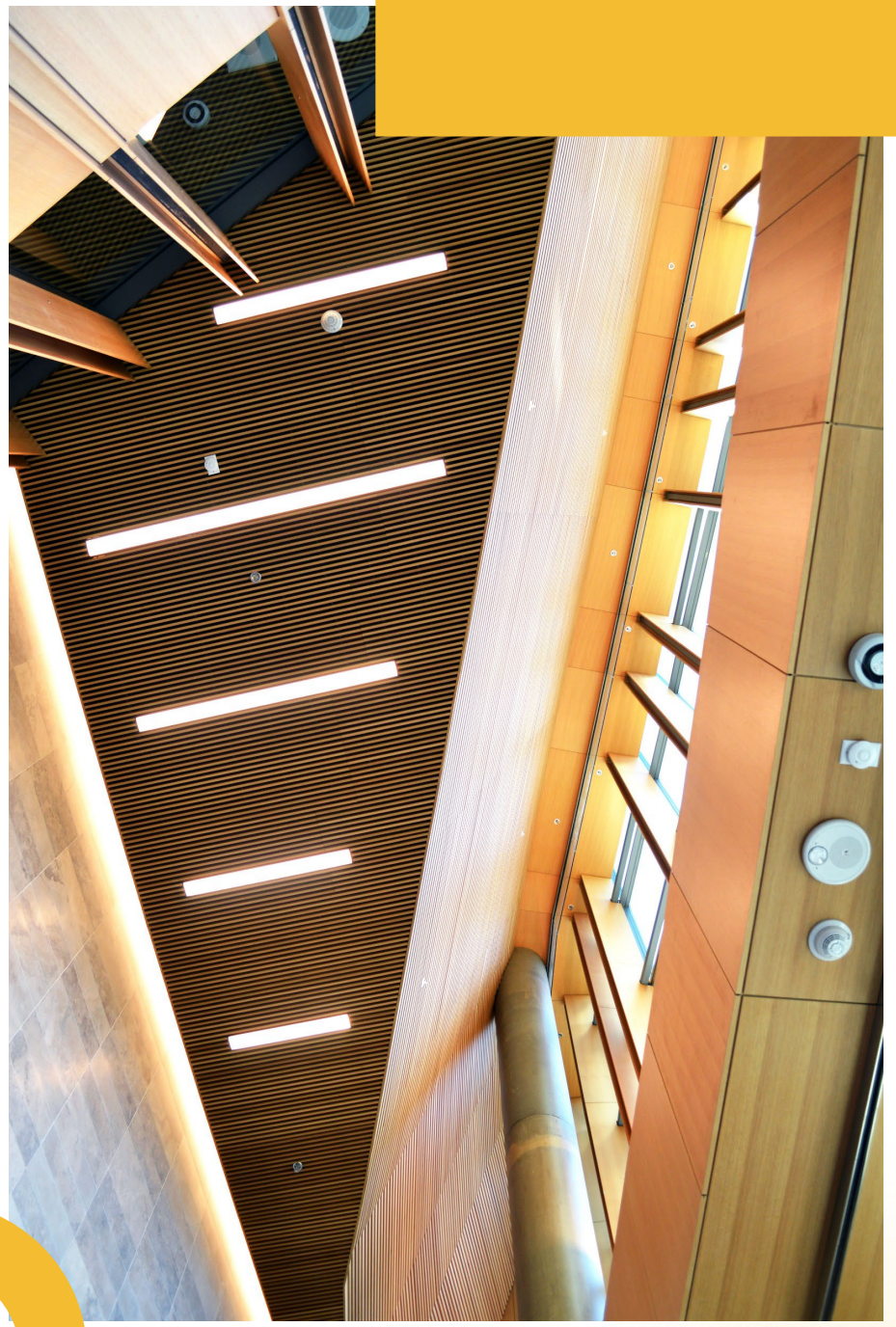
Key Takeaways

- Occupancy intelligence works in both legacy infrastructure and new builds
- Data enables better use of space, better patient flow, and smarter capital planning



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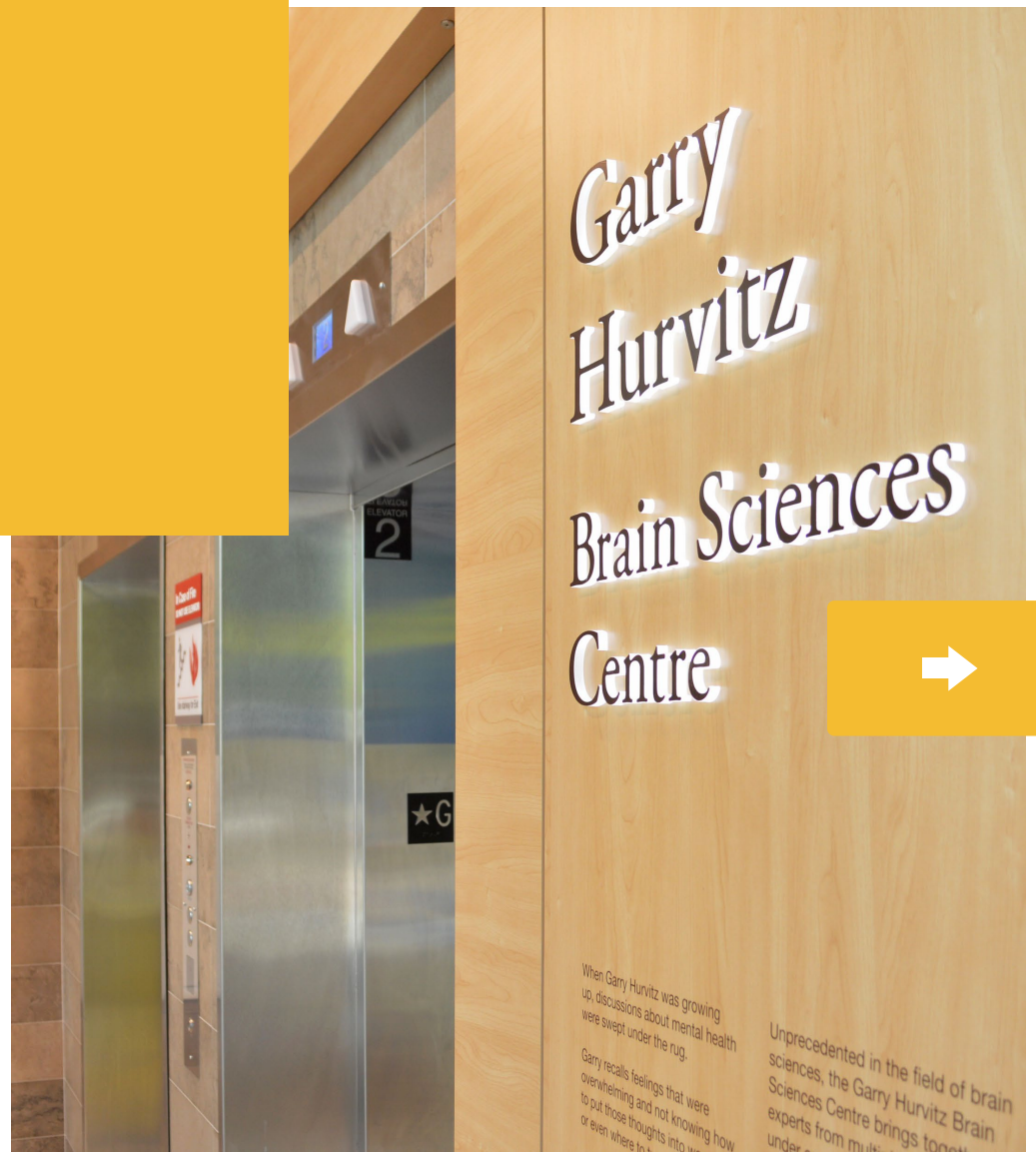

Beyond Rooms – Elevator Analytics

M-Wing Elevator Bank

Thermal sensors tracking:

- Wait times
- Passenger volumes
- Dwell times

Why this matters

- Not just rooms — the full patient journey
- Feeding simulation and modernization planning

The shift: from monitoring individual rooms to understanding the complete patient flow through the facility.

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Thank You

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