

# **Healthcare and Life Sciences: How Digital Innovation Can Optimize Patient Access and Flow**

Sharon Hakkennes

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## **Man dies in emergency department after waiting hours at rural hospital**

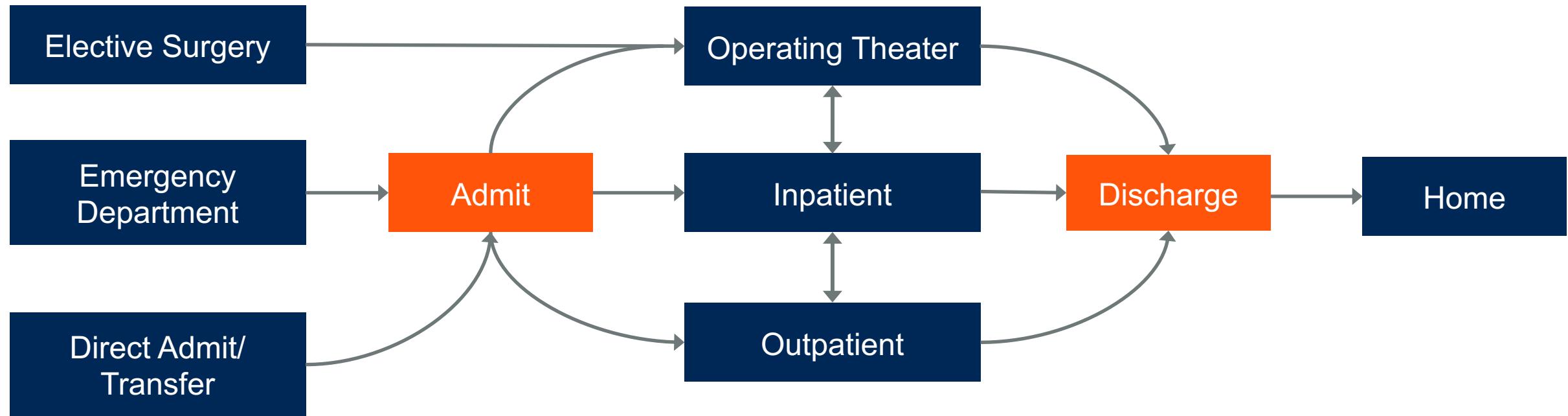
**A five-week wait to see a GP – if you can actually get an appointment**

**A patient who presented to a busy Christchurch ED left and later died in ICU**

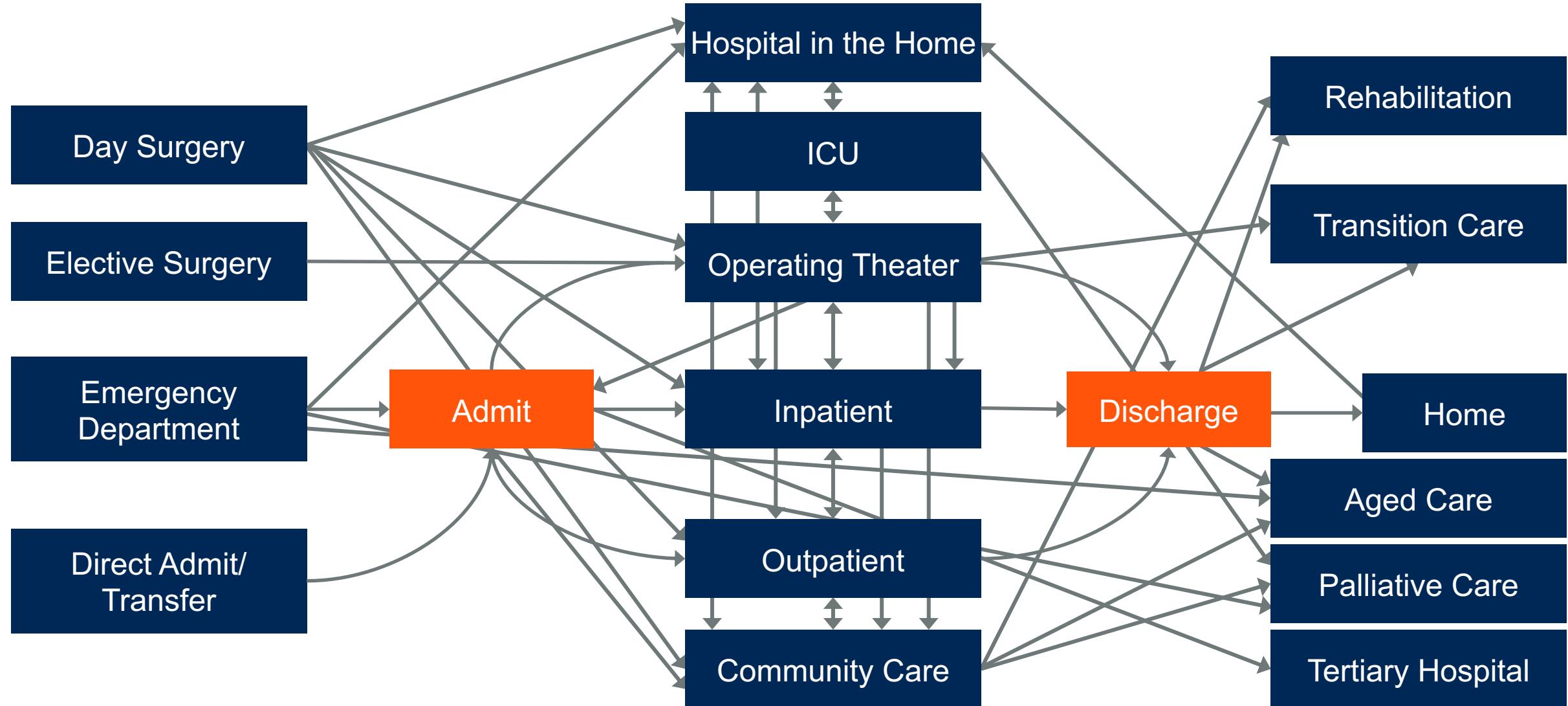
**Emergency department crowding has gone beyond hallways onto ambulance ramps. Now there's nowhere left to wait.**

**Children on surgery waiting list grow sicker due to delays, doctors warn**

# If Patient Access and Flow Were a Factory ...



# The Reality ...







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## 3 Focus Areas

1

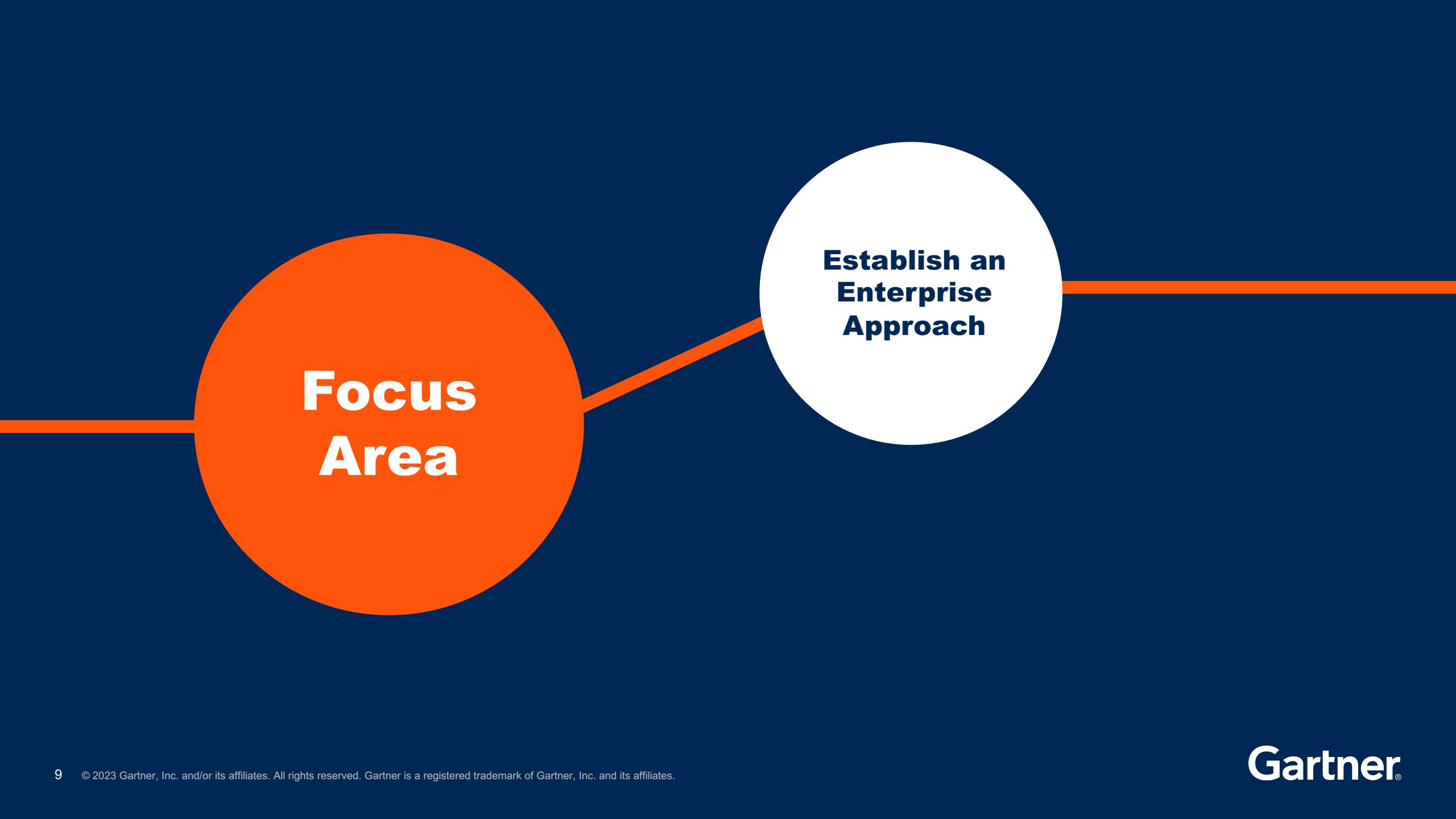
**Establish an  
Enterprise  
Approach**

3

**Maximize Value**

2

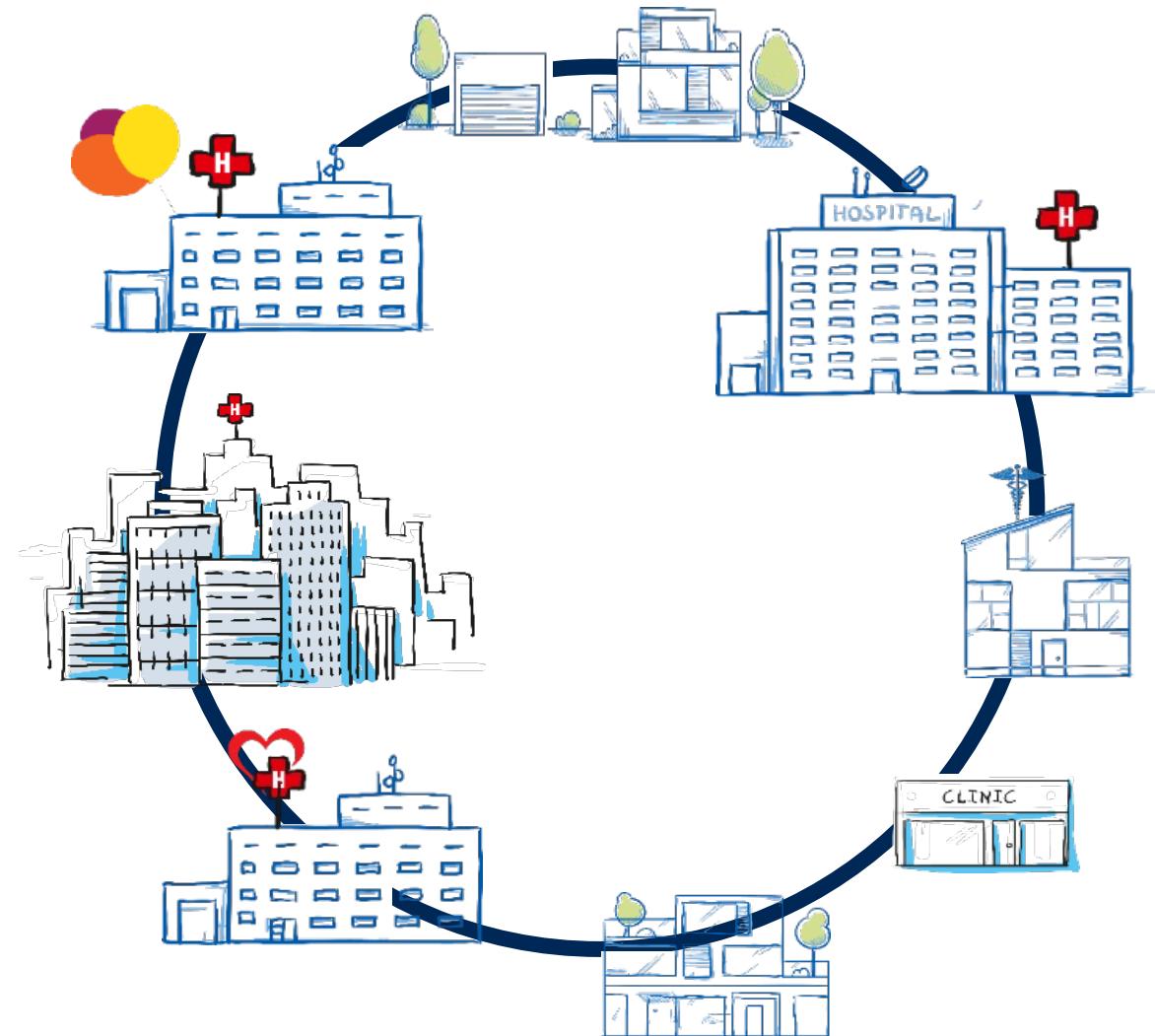
**Orchestrate  
Patient  
Journeys**



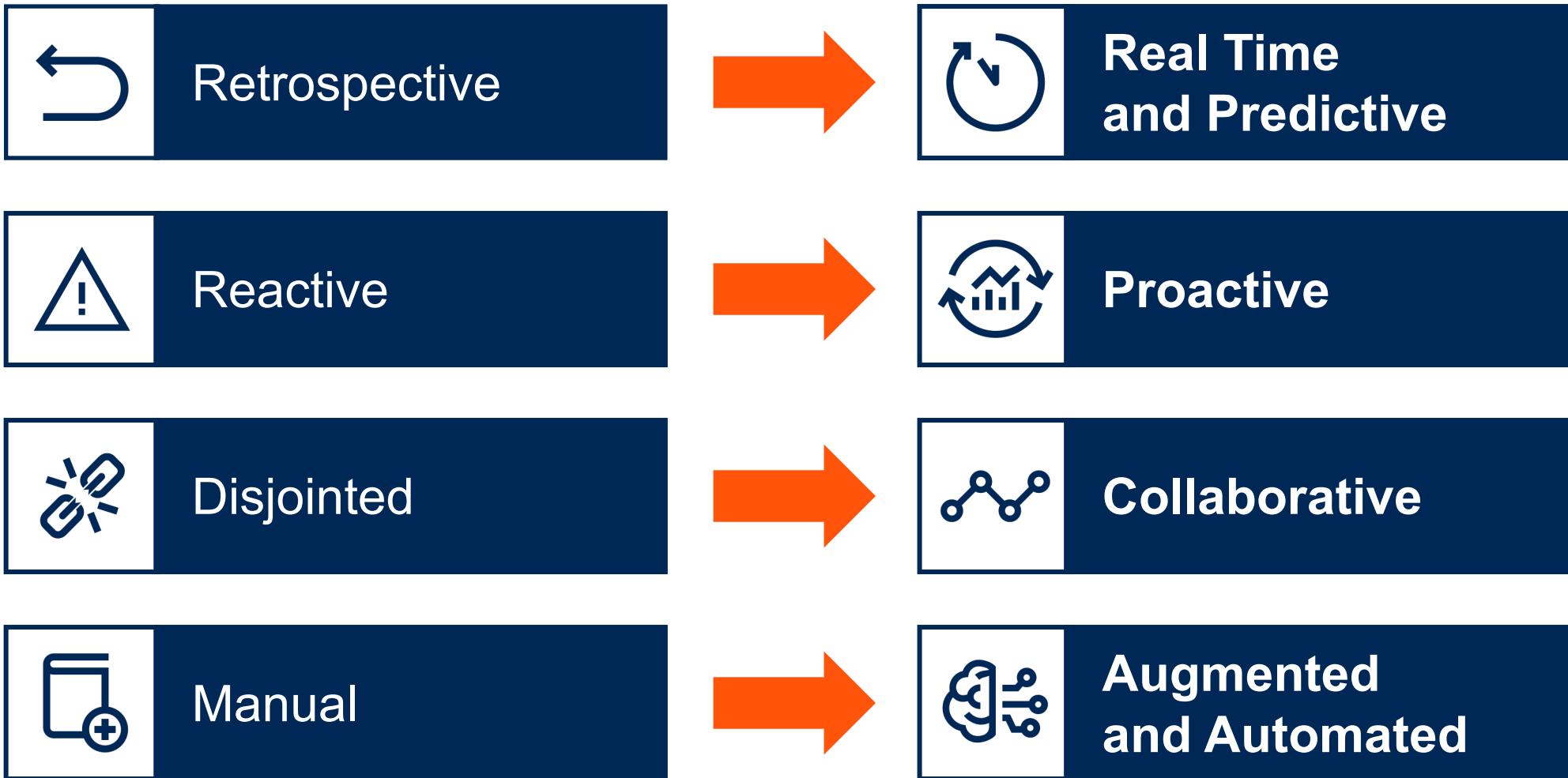


# Siloed Initiatives Block Systemwide Change

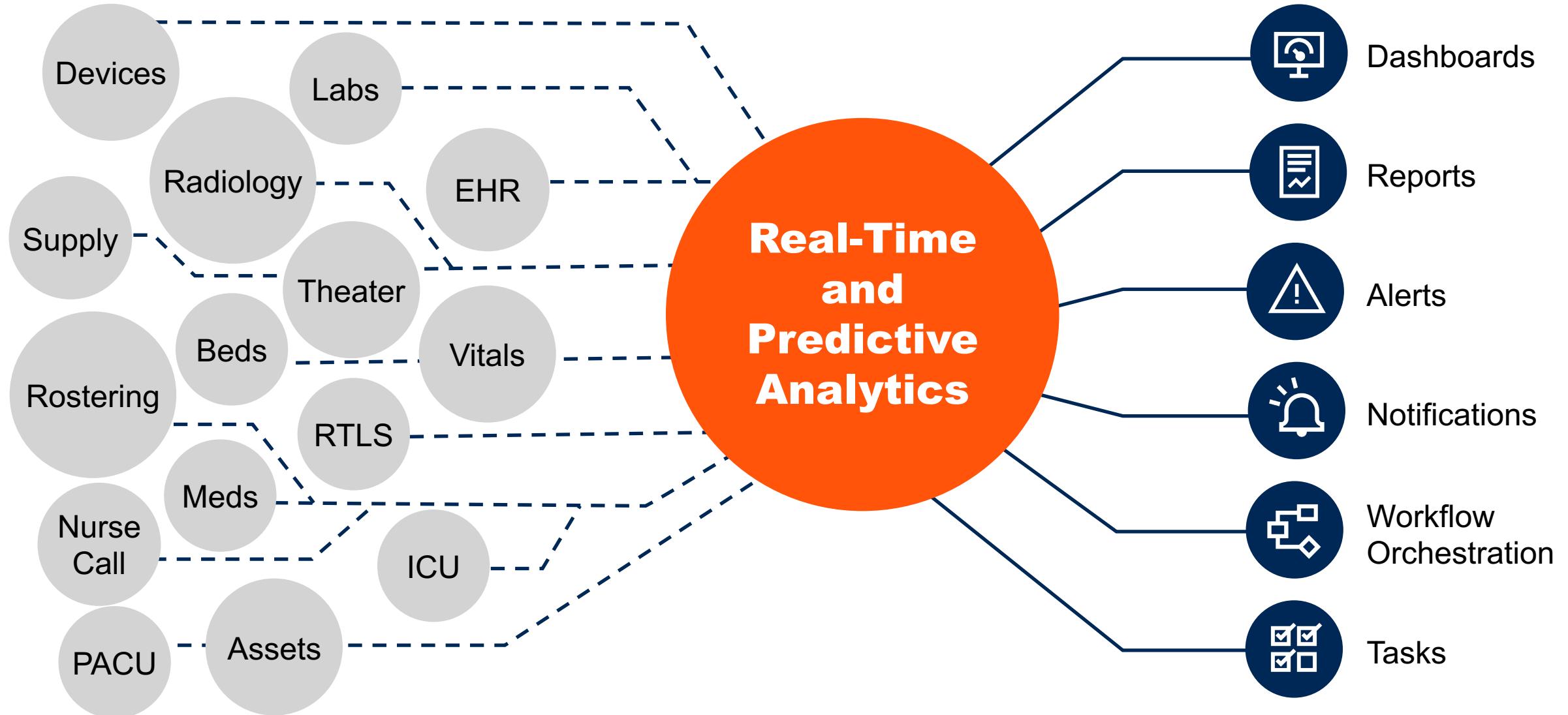
# An Enterprise Vision and Strategy Are Essential



# Patient Access and Flow Future State



# Health System Command Centre

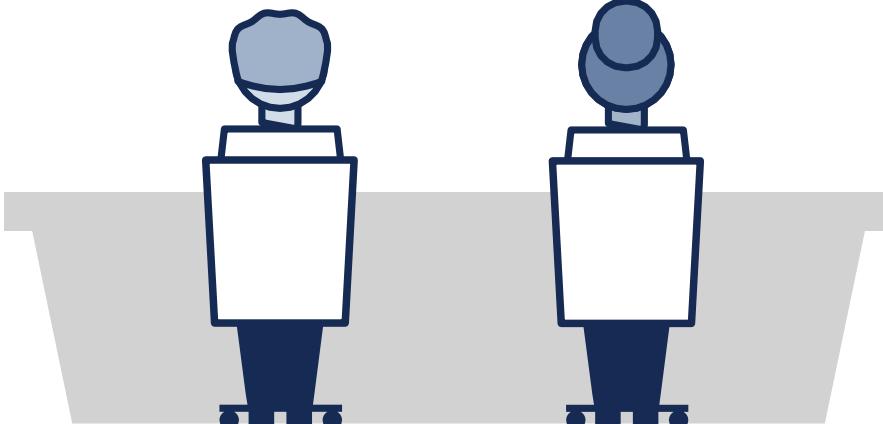
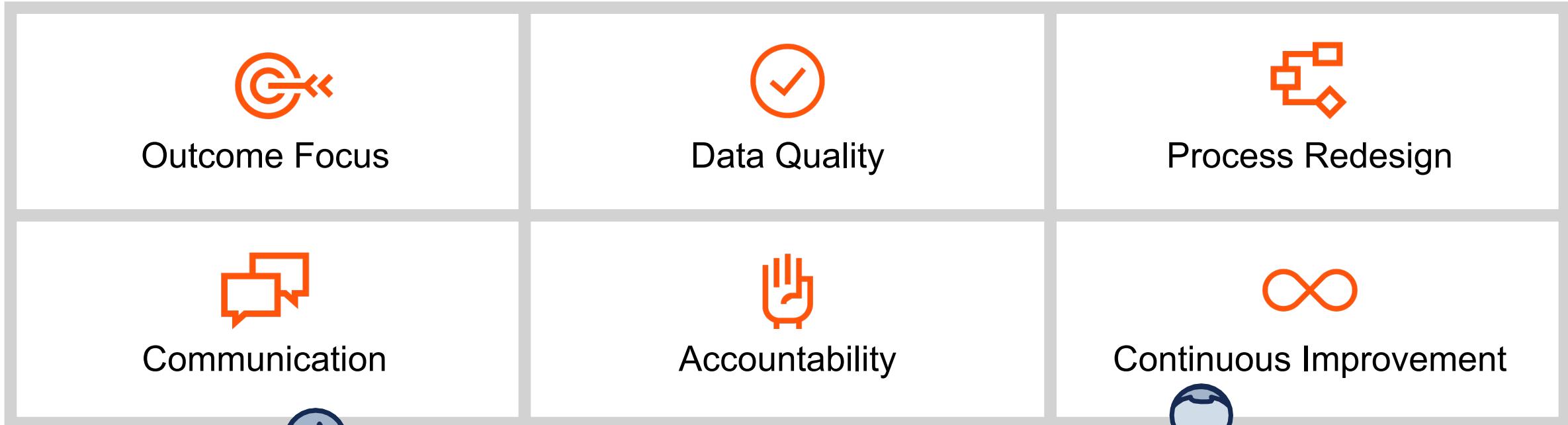


EHR = Electronic Health Record; RTLS = Real-Time Location System; PACU = Post-Anesthesia Care Unit

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# Critical Success Factors



# Humber River Hospital Command Centre



**Generation 1 — Patient Flow and Patient Care Logistics**

Capacity



**Generation 2 — Clinical Pathway and Reduce Never Events**

High Reliability



**Generation 3 — Community Reach and Reduce Acute Utilization**

Care Transformation

# Return on Investment Achieved in 2 Years

**34%**

Reduction in  
Average ED Wait  
Time for a Bed

**45%**

Reduction in Time  
to Clean Beds

**35**

Additional Capacity  
Equivalent to 35 Beds

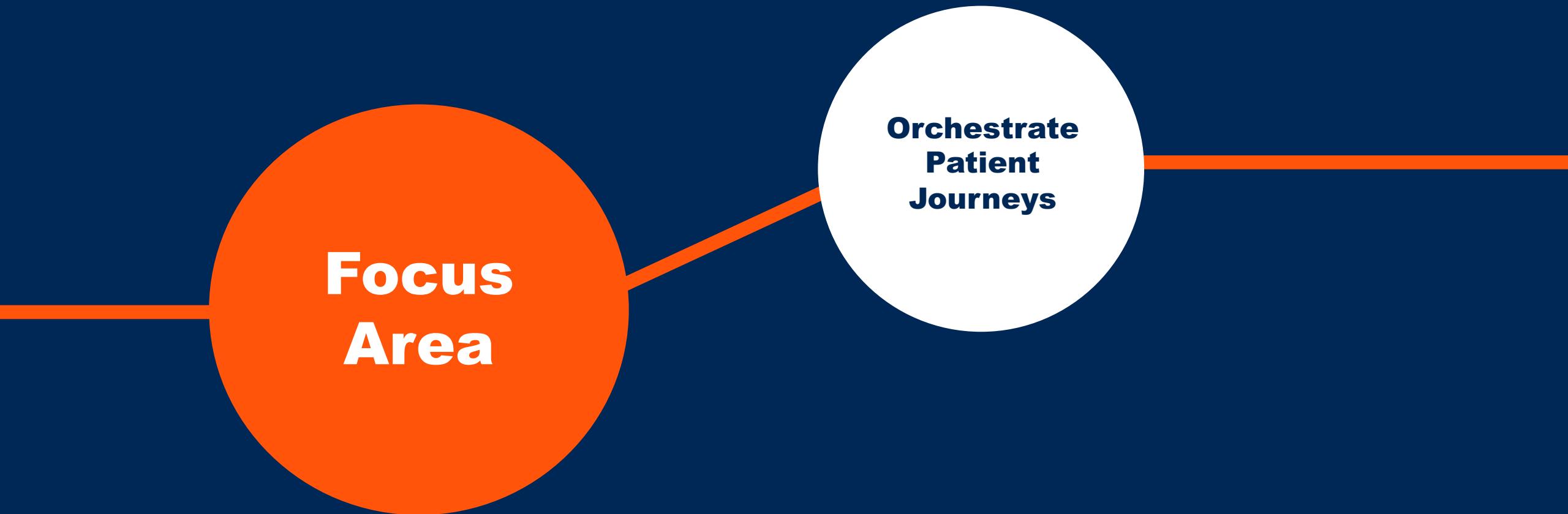
Source: [Humber River Hospital](#)  
ED = Emergency Department

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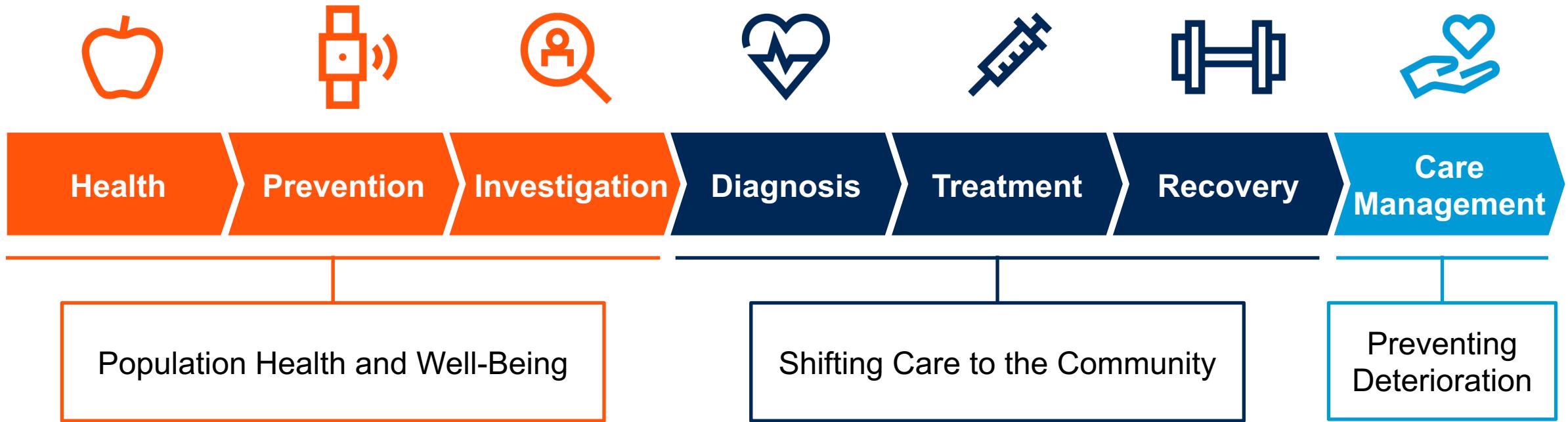
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## **Key Take-Away:**

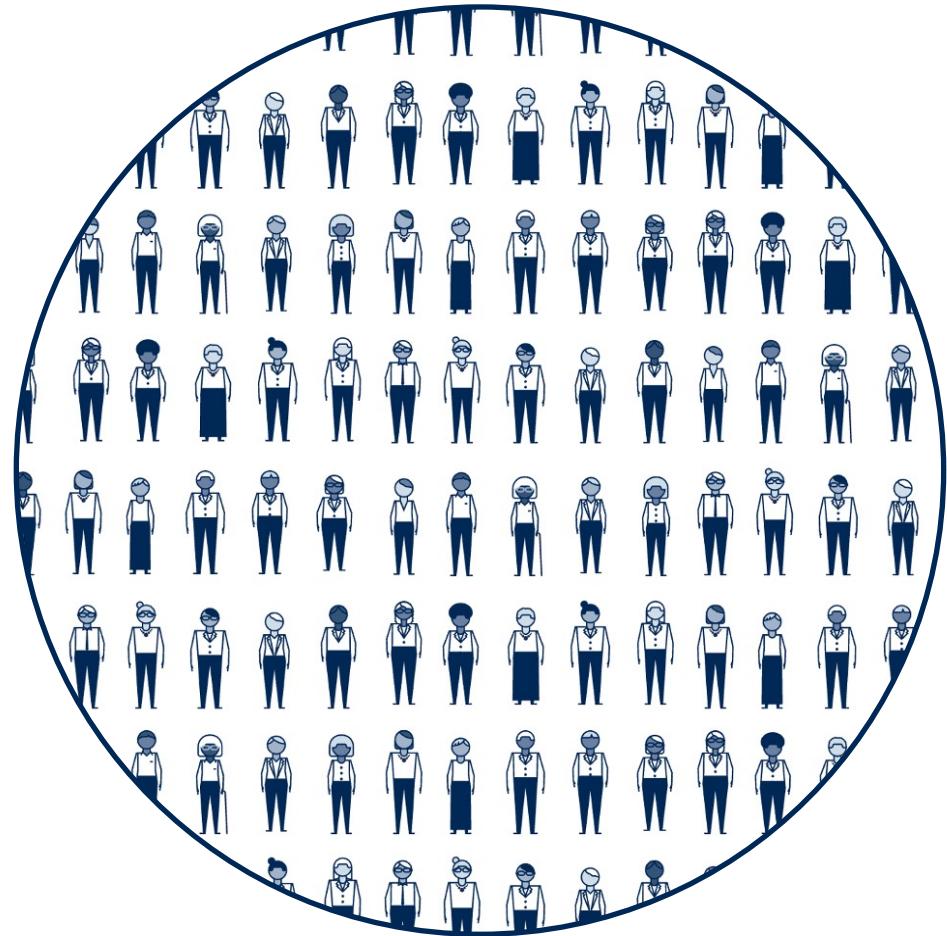
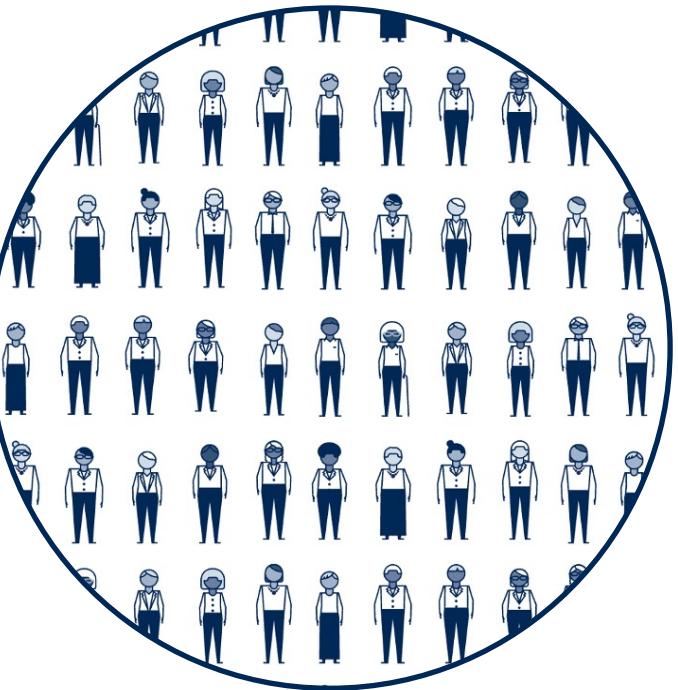
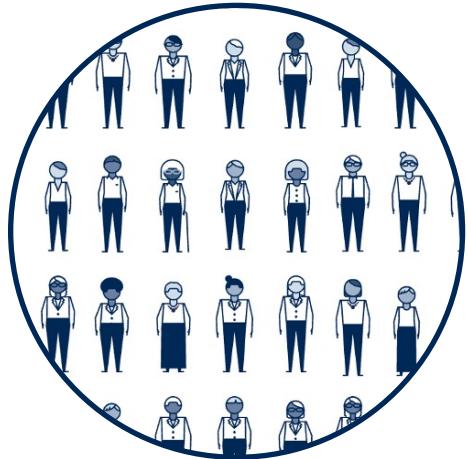
The health system command center is foundational to delivering **actionable insights** that drive an **enterprise approach** to improving patient access and flow.



# Health Systems Are Transforming Care Delivery Models



# The Challenge of Scale



# Digitally Enable the Care Journey



Care  
Navigation



Check-In



Wound  
Management



Self-  
Scheduling



Wayfinding



Education



Remote  
Monitoring



Video  
Visit



Appointment  
Reminders

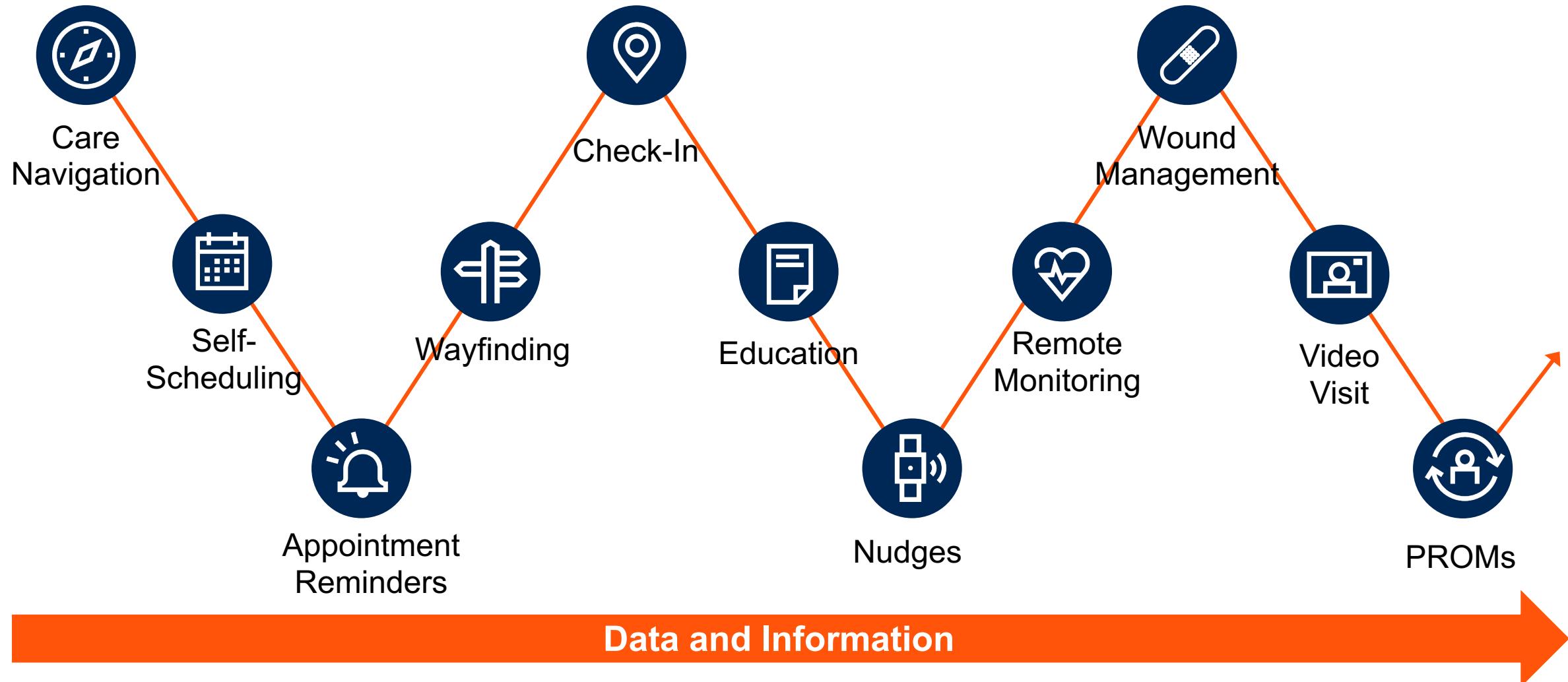


Nudges



PROMs

# Digitally Enable the Care Journey



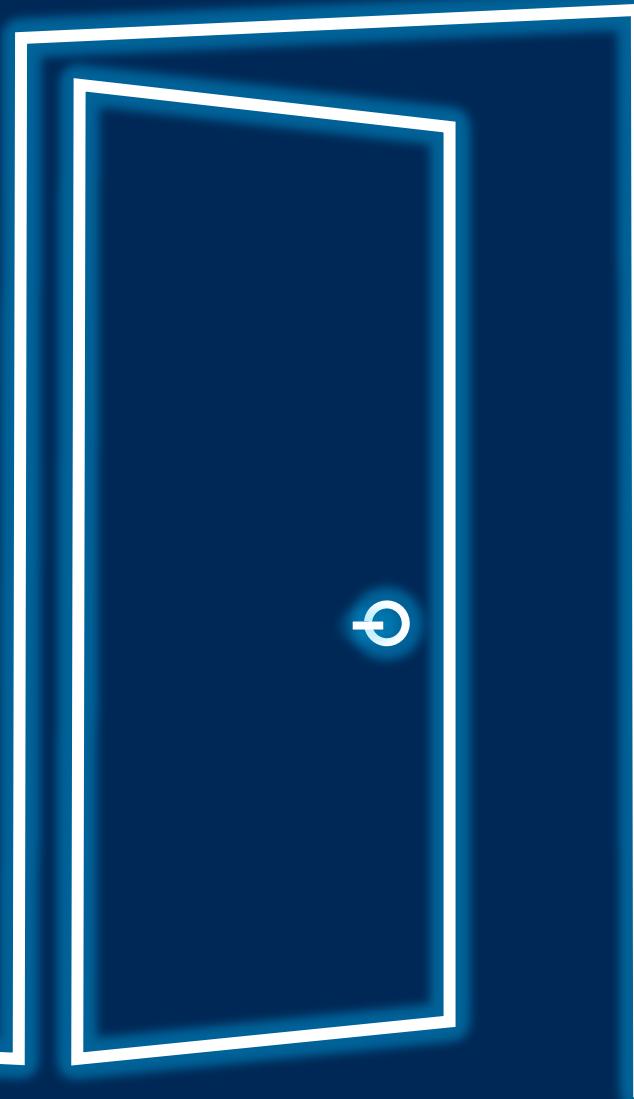
PROMs = Patient Reported Outcome Measures

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## **Digital Front Door (DFD)**

Enables engagement and activation using digital products and services across the entirety of an individual's journey through health, wellness and illness.



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# Design the Digital Front Door



Predictive

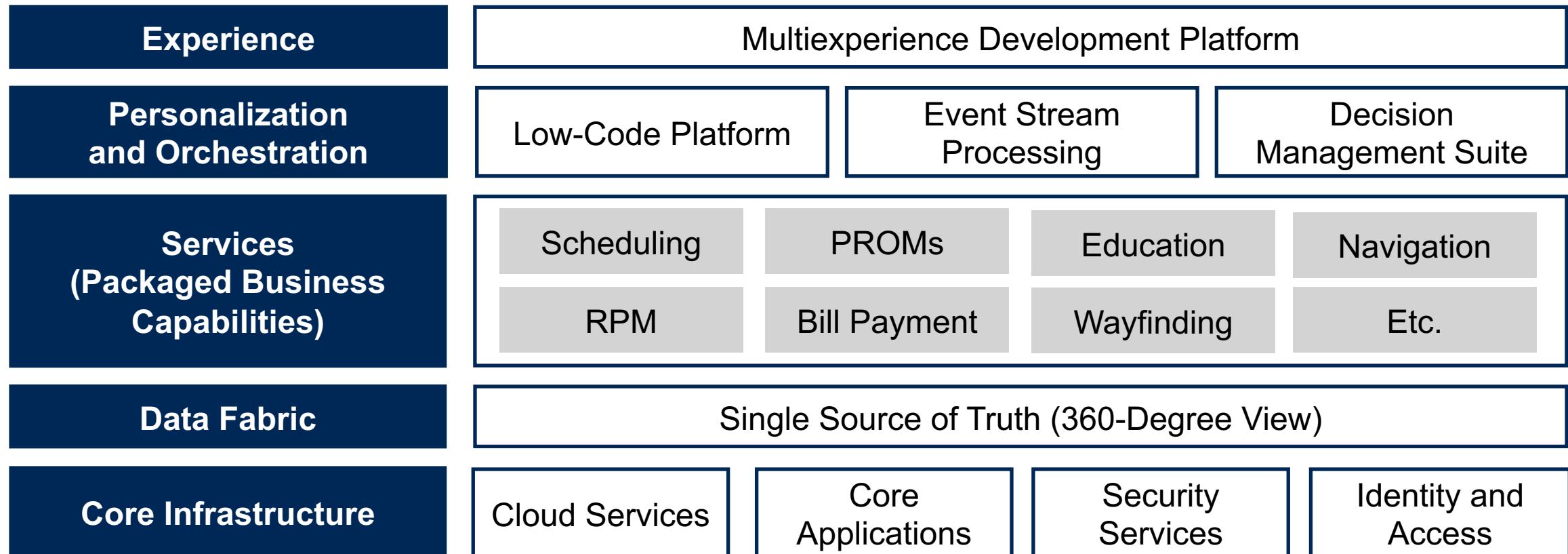


Participatory



Personalized

# Digital Front Door Platform

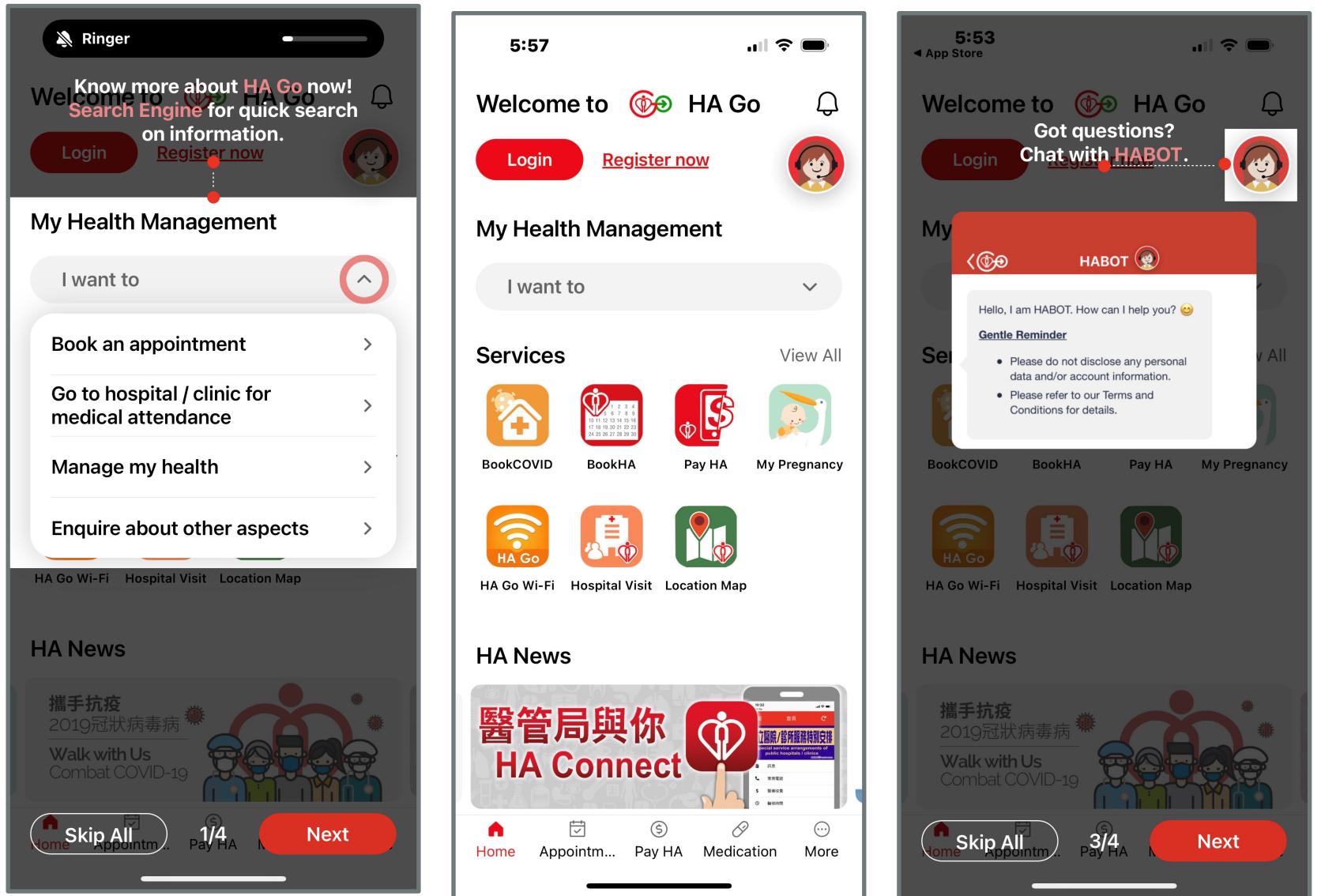


RPM = Remote Patient Monitoring

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# Hong Kong Hospital Authority — Orchestrating Care Through a DFD



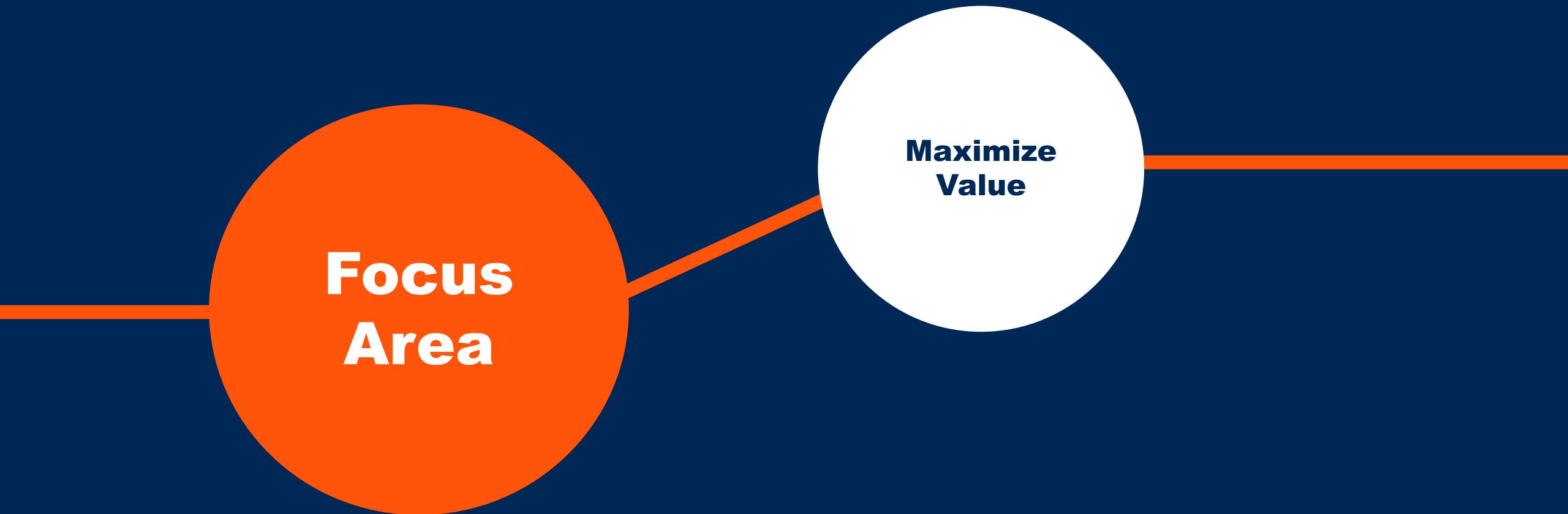
Source: [Hong Kong Hospital Authority](#)

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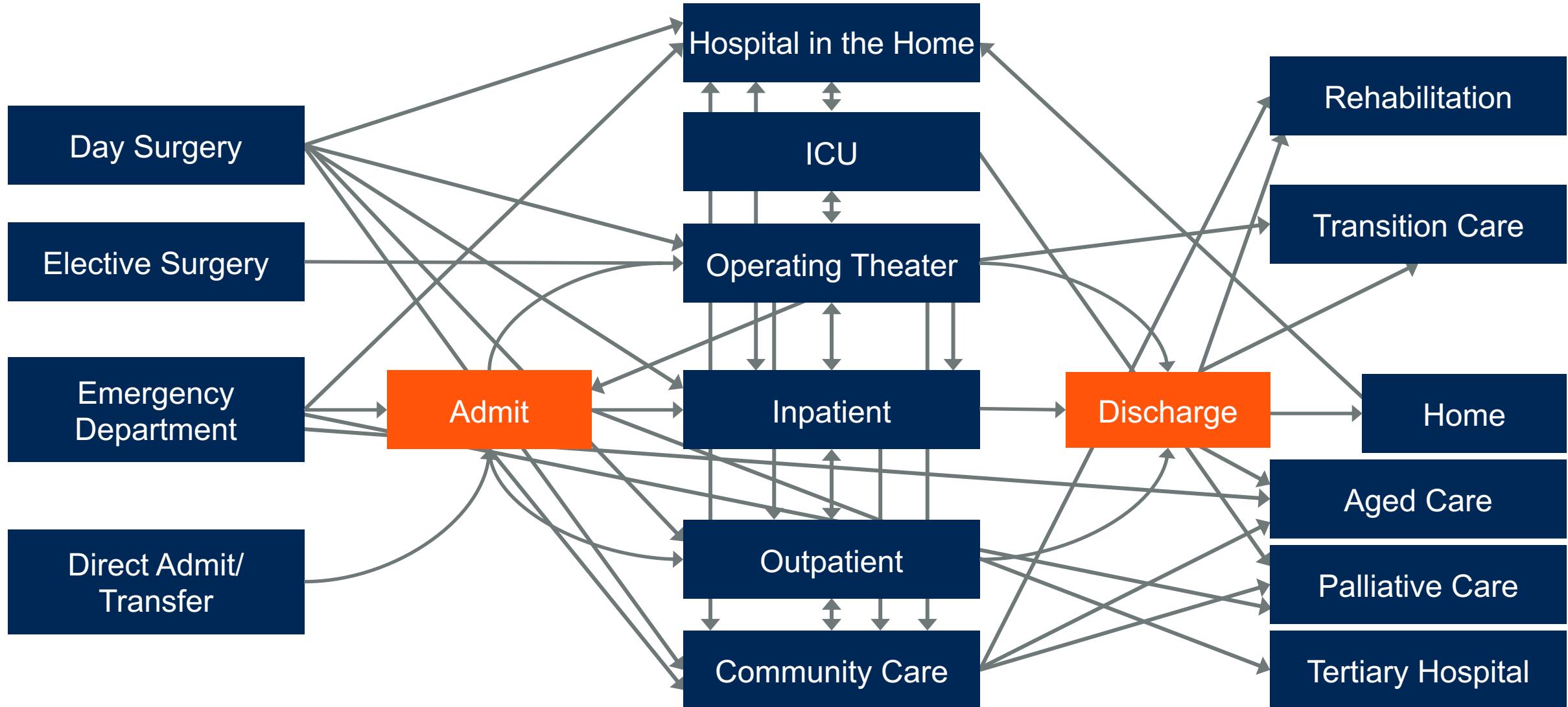
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## **Key Take-Away:**

Put the patient at the center of every access and flow initiative, adopting a **digital front door** approach to deliver **personalized experiences** across care journeys.



# Many Opportunities .... Finite Resources



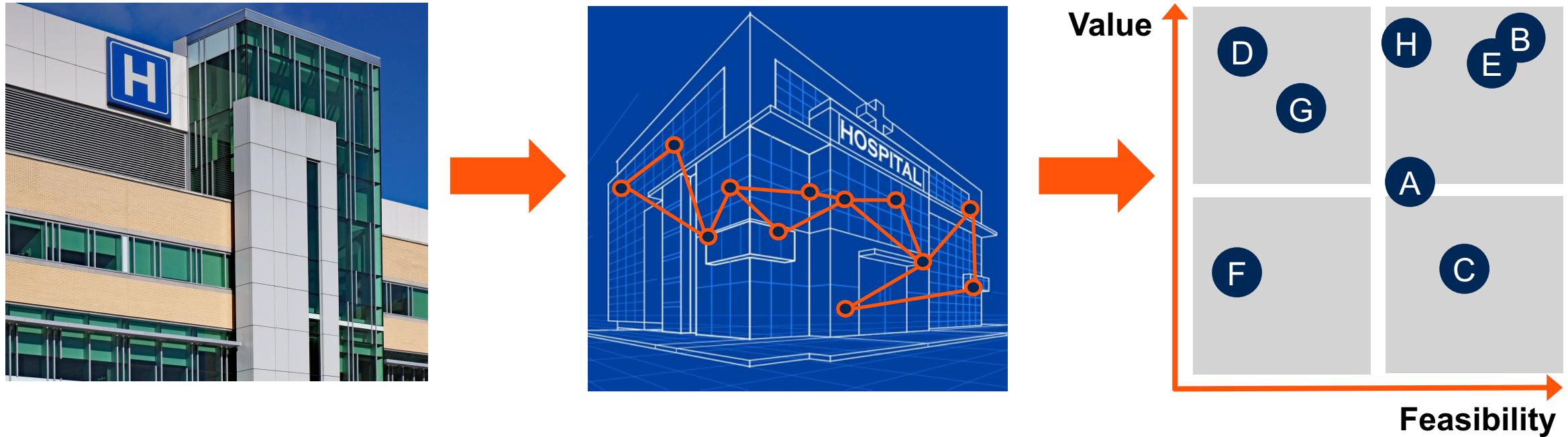


**What if we could predict the  
impact of patient access and  
flow initiatives?**

**Digital twin** is a **digital representation** which mirrors the state of a **real-world entity** or system used to achieve **business outcomes** such as process optimization or new business models.



# Prioritize Initiatives Using a Digital Twin



# Johns Hopkins — Simulating “Zero Wait” ED



## Increase Capacity

Diminishing Returns



## Reduce Patient Dwell Time

Does Not Eliminate Wait



## Interdepartmental Process Changes

Greatest Impact

## **Key Take-Away:**

Enable your organization to **maximize value** of investment into patient access and flow by deploying a digital twin to **prioritize** innovations.

# Recommendations

- Inventory initiatives in flight across your organization that involve or potentially impact patient flow.
- Leverage this to garner executive support for the development of an enterprise patient access and flow approach and strategy.
- Use this strategy as a foundation to build the business case for investment into core enabling technologies — the health system command centre, digital front door and digital twin.

# Recommended Gartner Research

- [Case Study: Fusion Team Drives Operational Efficiency in Patient Throughput \(OhioHealth\)](#)  
Sharon Hakkennes and Veronica Walk
- [Hype Cycle for Digital Care Delivery Including Virtual Care, 2023](#)  
Sharon Hakkennes and Veronica Walk
- [Hype Cycle for Real-Time Health System Technologies, 2023](#)  
Gregg Pessin and Barry Runyon
- [Innovation Insight for Real-Time Health System Command Center](#)  
Sharon Hakkennes, Barry Runyon and Gregg Pessin