



# A High Reliability Approach to Transformation

# Presenter



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Kenny is responsible for overseeing Nexera's consulting services— operations improvement, financial improvement, and clinical engagement. He also manages a variety of supply chain consulting engagements and provides strategic supply chain and fiscal advisory services to healthcare organizations aimed at growing business performance. Kenny is a veteran speaker and has presented nationally at the IDN Conference and Reverse Expo, HFMA (Healthcare Financial Management Association), AHRMM (Association for Health Care Resource and Materials Management), Premier, OR Business Manager Conference, and local ARHMM chapters as well as with Modern Healthcare. He was also a primary contributor to the Nexera book *The Healthcare Supply Chain: Best Practices for Operating at the Intersection of Cost, Quality, and Outcomes*. Additionally, he has authored articles that have been published by Becker's Hospital Review, HFMA's Cost Containment, AHRMM's Supply Chain Strategies & Solutions, and Premier. Kenny received a BS in Supply Chain Management and Marketing Management from Syracuse University and an MBA and MS in Healthcare Leadership from Cornell University's Johnson Graduate School of Management and Weill Cornell Graduate School of Medical Sciences. Kenny is a Certified Materials Resource Professional through the American Hospital Association. In 2019, he was named one of the *Becker's Hospital Review* Rising Stars: 66 Leaders in Healthcare Under 40.

# Presentation Overview

- Introduction and Market Trends
- High Reliability Organization Approach
- Clinically Integrated Supply Chain Management
- Why Does It Matter?

# Learning Objectives and Takeaways

- The value of involving supply chain in organizational strategy and transformation
- Strategies for achieving an organization-wide commitment to margin improvement
- Taking a high reliability approach to supply chain transformation is what drives success



# INTRODUCTION AND MARKET TRENDS



# Market Trends

## Transactional

- **Fiscal Pressure: revenue and cost structure under significant pressure**
  - Accelerating cost growth
  - Significant government cuts; reductions in payment rates
  - Volumes are increasingly vulnerable as patients with high-deductible health plans forego care
  - Case and payer mix worsening

## Antiquated

- **Provider consolidation and regional plays**
- **Payer/provider integration**
- **Increasing healthcare consumerism**
- **Technological innovations**

## Sluggish

# Elements of an Attractive Network

**1**

## Cost



- Low unit prices relative to competitors
- Willingness to further reduce prices
- Investment infrastructure that signals ability to control cost trend

**2**

## Access



- Geographic coverage that aligns with purchaser of interest
- Ability to meet convenience demands of consumers (after hours, weekend access, virtual care, etc.)

**3**

## Clinical Quality



- Better outcomes than competitors
- Adherence to evidence-based clinical practices

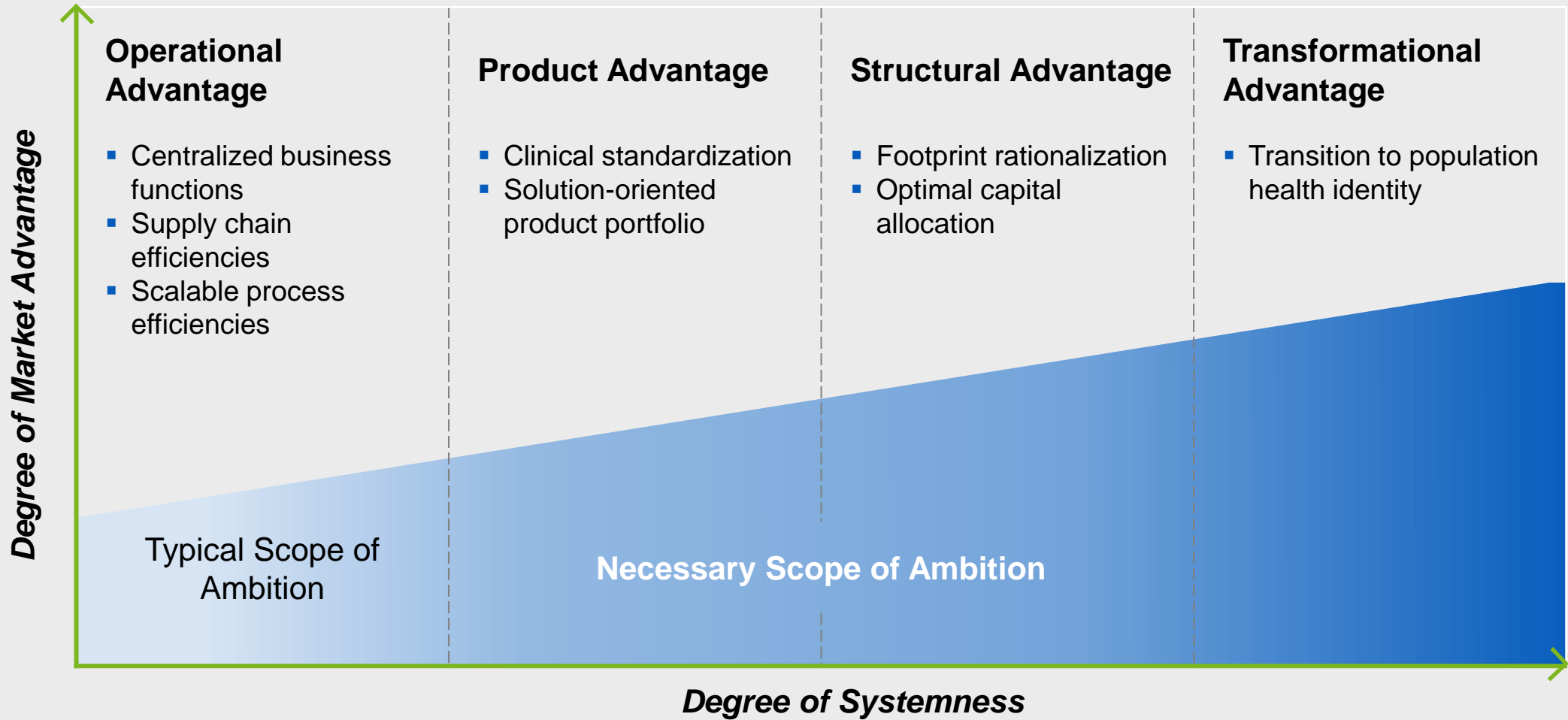
**4**

## Service Experience



- High patient satisfaction ratings
- Strong brand reputation

# “Systemness”





# In the Headlines...

**Survey: 25% of hospital staff witness expired or recalled product used on a patient**

**How Poor Inventory Management Affects Profitability**

**Better Inventory Management Systems Can Reduce Operating Room Costs, Study Finds**

**Survey Confirms the Obvious—Better Performing SCM = Better, Safer Patient Care**

# Efforts in Past Decades

## Reducing Medical Errors and Improving Patient Safety

*TQM, BPR, Kaizen, Six Sigma, TPS, Lean...*

### Share Key Concepts

- Customer satisfaction
- Process control, reduction in variation
- Waste reduction
- Management commitment
- Organizational change

# High Reliability Organization (HRO)

- **Preoccupation with failure**

An obsession with never failing (e.g., stocking out, expired product, stocking issues, etc.); always alert to the smallest signals that a new threat may be developing.

- **Resist the temptation to oversimplify**

Threats to safety can be complex and present themselves in many different forms; ability to identify subtle differences – early (able to easily fix) vs. late recognition (problem is already out of control).

- **Sensitivity to operations**

Recognize that earliest indicators of threats typically appear in small changes in operations; result: they take great pains to ensure that all frontline staff always report any deviation from expected performance – make sure everyone feels free to speak up/feels the obligation to do so.

- **Commitment to resilience**

Recognize that despite best efforts and past success, errors will occur: an organization's ability to recognize errors quickly and contain them; preventing harm and bigger problems.

- **Regard for expertise**

When confronted by a new threat, mechanisms are in place to identify individuals with the greatest expertise relevant to managing the new situation and give decision-making authority to that person or group; not organizational hierarchy.

# The New Role of Supply Chain

- **Shift from transactional to strategic function**
- **C-suite-level presence**
- **Clinically integrated**
- **Population health**
- **Value-based contracting**

- **Plays a critical role in:**
  - **Driving margin**
  - **Building a sustainable financial model**
    - Deliver higher value with less
    - Holistic approach to expense management
    - Revenue generation
    - Competitive advantage



# HIGH RELIABILITY ORGANIZATION APPROACH



**DATA MANAGEMENT**

- Item master duplicates (number)
- Average missing fields per item (%)
- PO items managed by item master (%)

**INVENTORY MANAGEMENT**

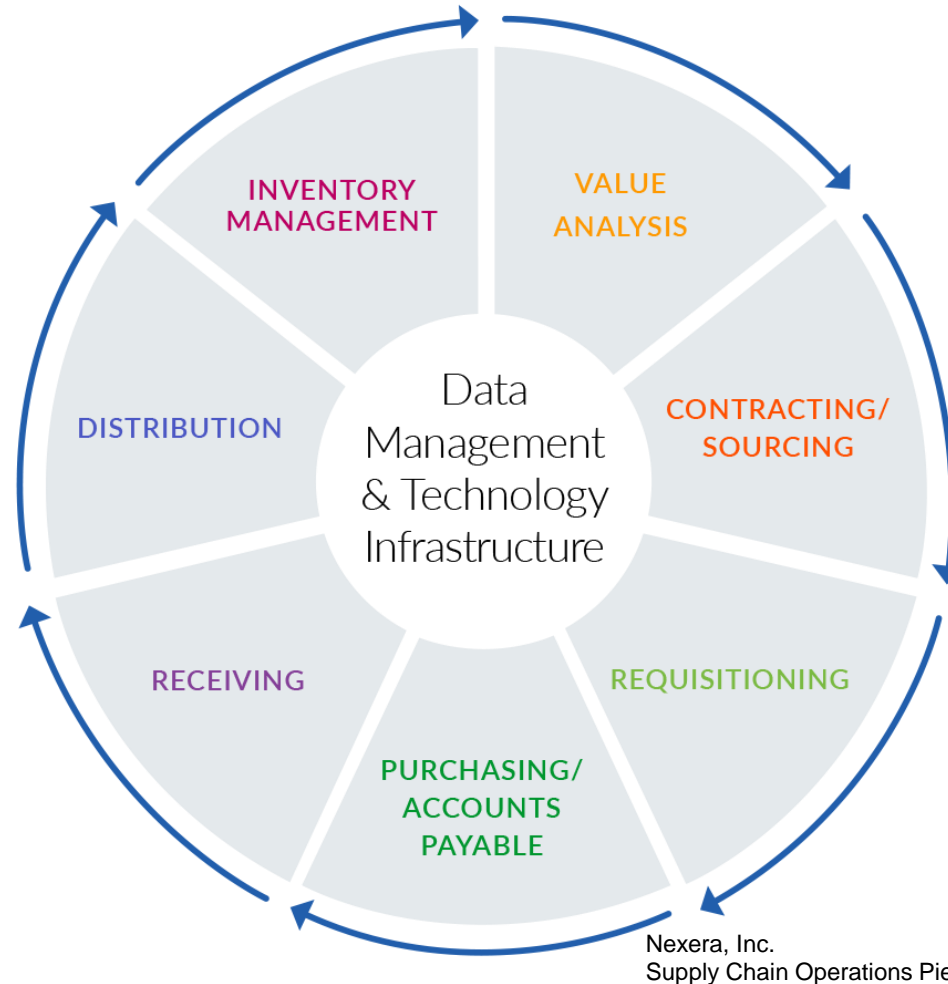
- Storeroom average days on hand (number)
  - Storeroom inventory value ÷ annual distribution spend
- OR average days on hand (number)
  - OR inventory value ÷ annual OR spend
- Annual stock-outs (number)
- OR inventory value (\$)
  - OR inventory value ÷ number of rooms

**DISTRIBUTION**

- Ad hoc deliveries (number)
  - Ad hoc deliveries to nursing floors or other areas

**RECEIVING**

- Electronic receiving (%)
  - Electronic receipts ÷ total receipts
- Invoice not received (%)
- Advance shipment notices (%)
  - Advance shipment notices ÷ total shipments



**VALUE ANALYSIS**

- Annual savings (\$) based on value analysis initiatives
- Value analysis initiative volume (%)
  - Value analysis initiatives ÷ total procurement initiatives

**CONTRACTING/SOURCING**

- On-contract PO spend (%)
- Supply spend as a percentage of net operating revenue (%)
  - Supply spend ÷ net operating revenue

**REQUISITIONING**

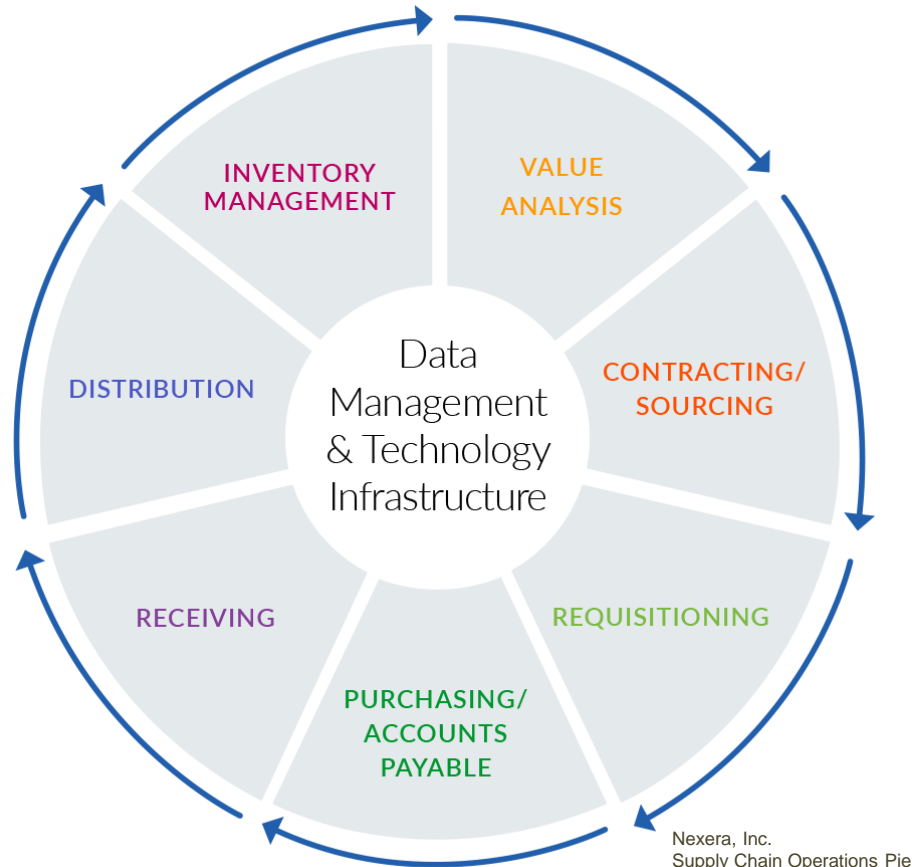
- Preferred item requisitions (%)
- Requisition to PO (time)
- Electronic requisitions (%)
  - Percent electronic ÷ total requisitions
- Item master requisitions (%)
  - Percent of requisition line items with item master number

**PURCHASING/ACCOUNTS PAYABLE**

- Exceptions (%)
  - Number of discrepant PO lines ÷ total PO lines
- Cost to issue a PO (%)
  - Annual supply chain department operating expense ÷ number of POs
- Automatic POs (%)
  - POs that automatically skip the buyer's desk
- POs through the EDI (%)
  - Total EDI POs ÷ total POs
- PO lines per full-time employee (number)

# Best-In-Class Supply Chain:

## Elements of the HRO Supply Chain



### Analytics is the business

- Technology-driven
- Business intelligence is the foundation
- Demand-driven through predictive analytics

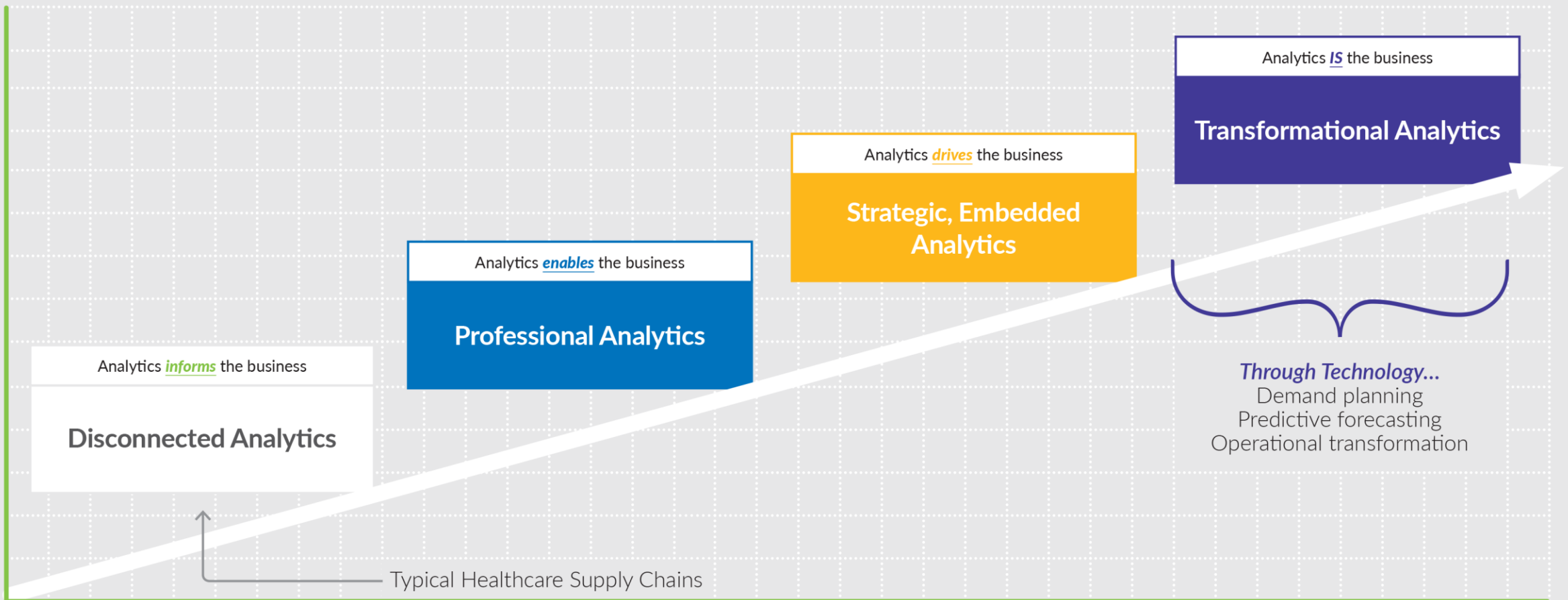
### Customer service-focused

- Centralized service center
- Defined operational workflow
- Automation

### Highly reliable, agile, innovative, and strategic

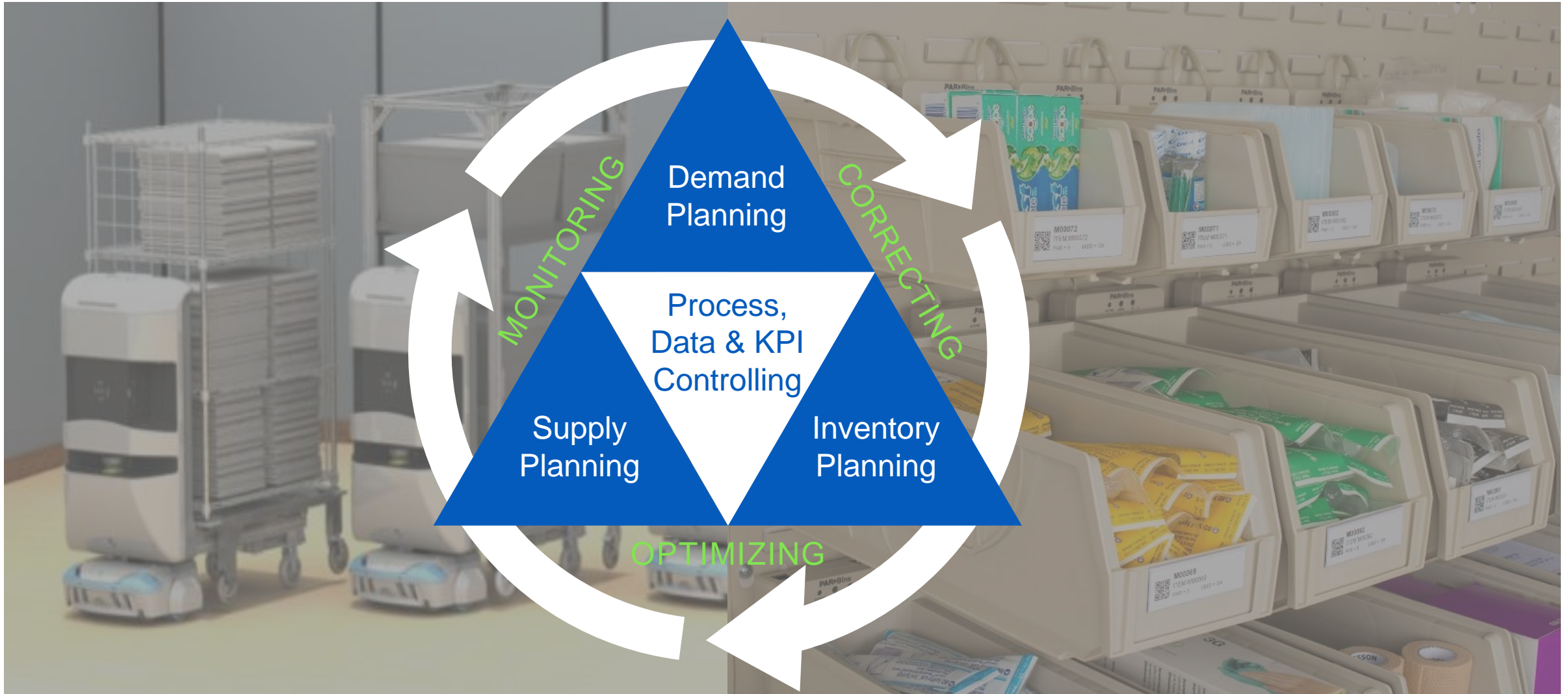
- Operational integration
  - Clinically integrated supply chain model

# The Evolution of Analytics and Business Intelligence in Supply Chain





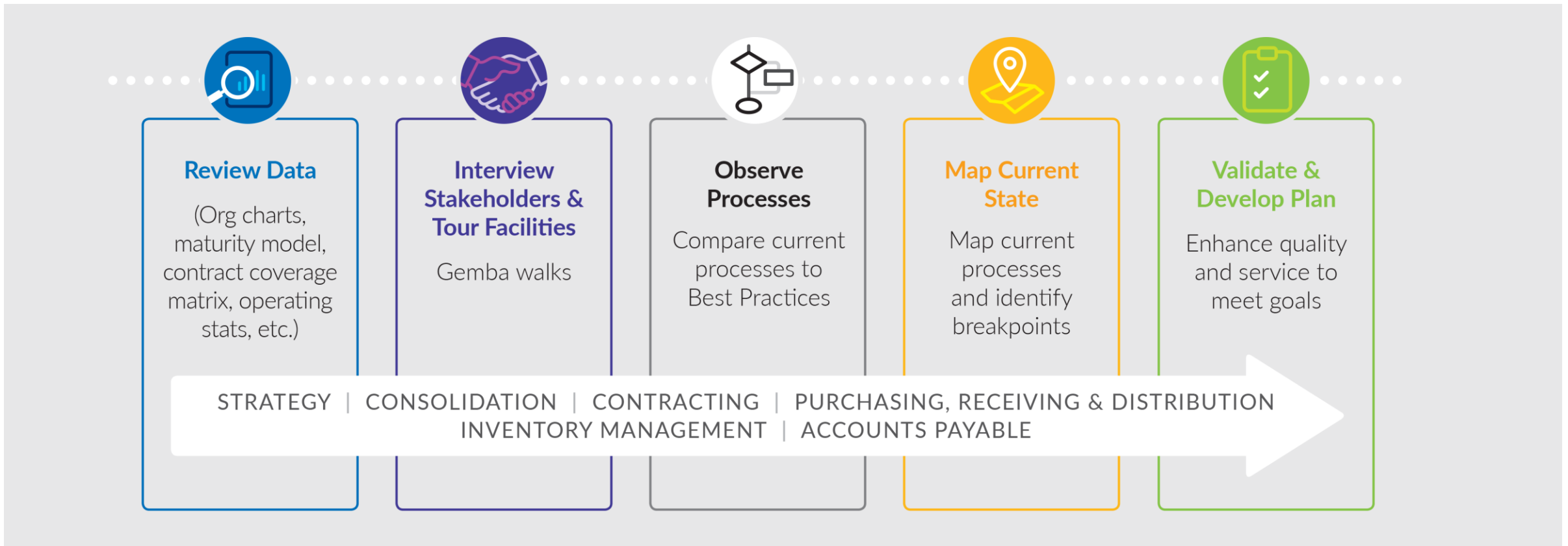
# Technology: Advanced Logistics



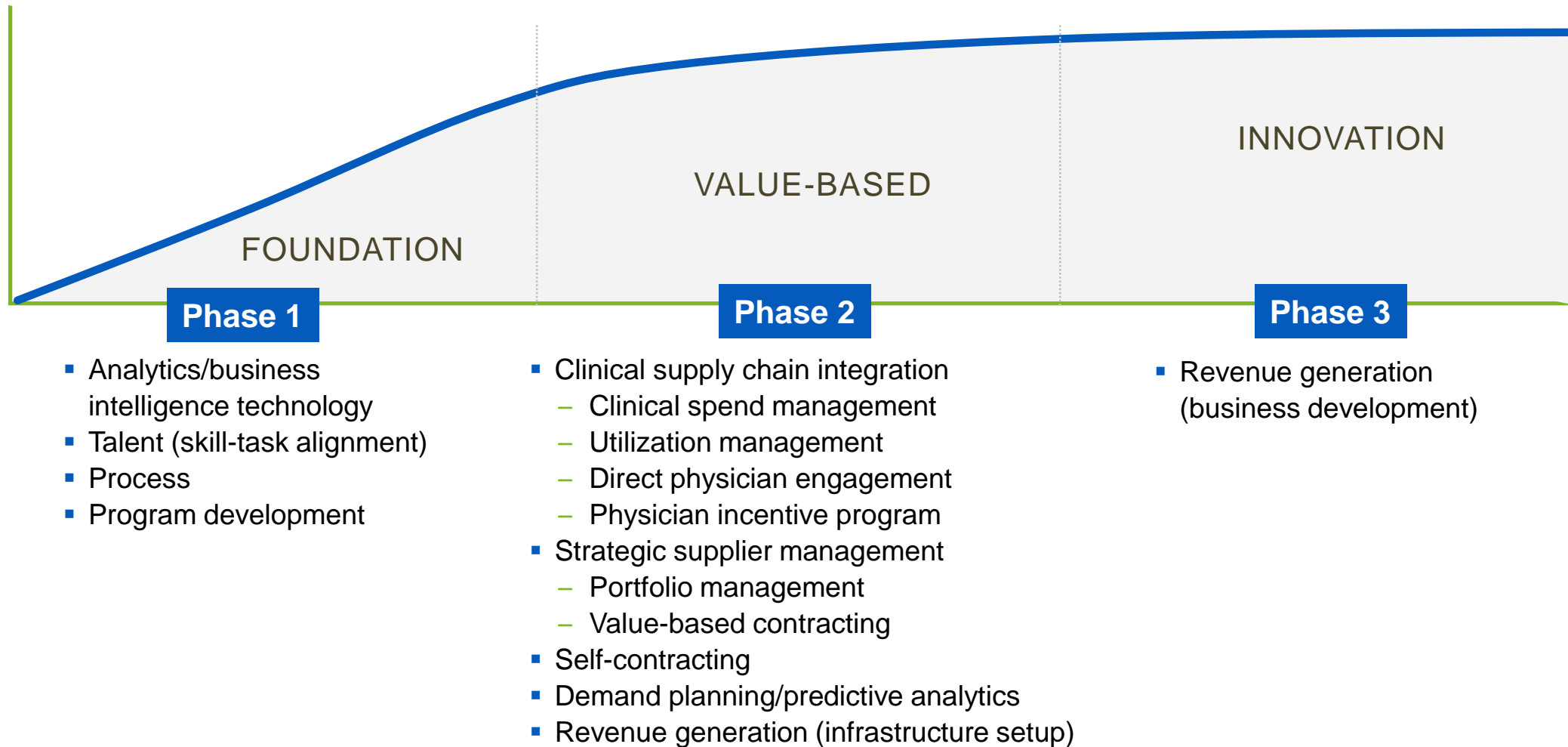
# Nexera's Approach to Transformation

## People / Process / Technology

Data analyses, observations, interviews, and process mapping across key functional areas support understanding current processes and improvement opportunities as compared to leading practices.



# Transformation Pathway





# SUPPLY CHAIN MANAGEMENT TRANSFORMATION



# Logistics Goals

## Inventory Control Manage Variability

- Frees caregivers to focus more on patients
- Reduces supply waste
- Integrates clinical and non-clinical best practices

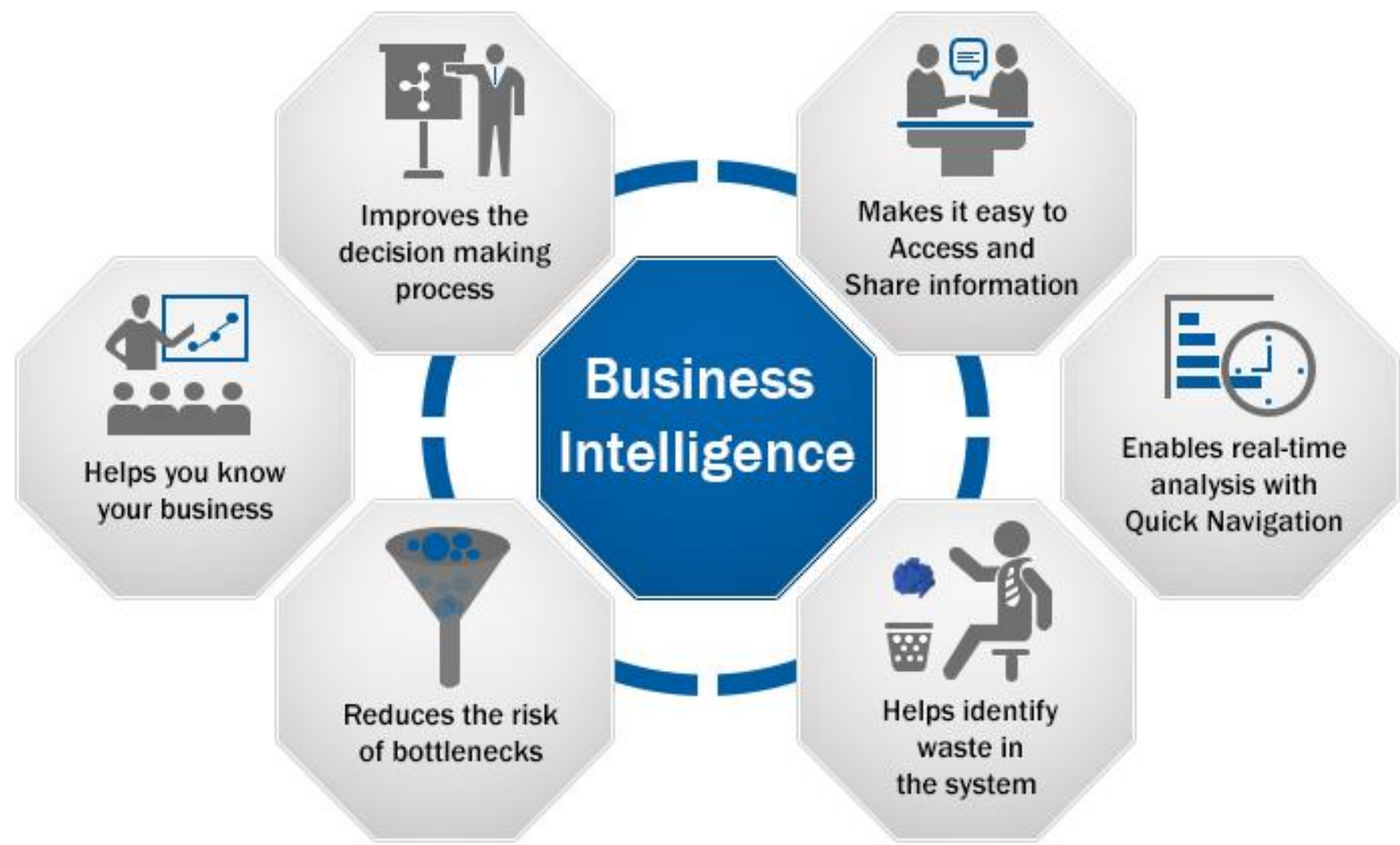
## Demand Planning Zero Stock-Outs

- Uses clinical orders to drive supply requirements
- Facilitates continuous improvement with continuous data collection
- Provides real-time tracking to route people and supplies

## Customer Service Mend Broken Links

- Clinically integrated
- Assistance
- Information
- Feedback
- Support
- Roles & responsibilities
- Customer
- Contacts
- Solution

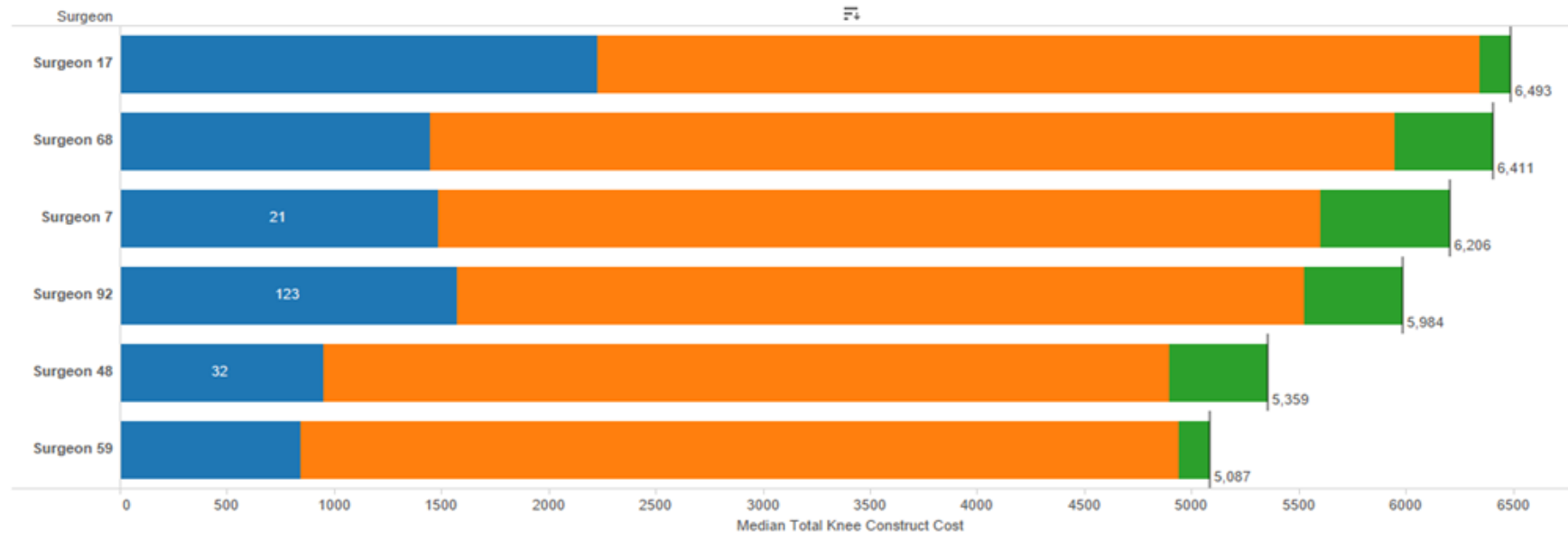
# Business Intelligence is Key



# Clinically Integrated Procurement Decisions

## Cost by Surgeon

AVG Procedure Cost by Surgeon- Total Knee Cases FY15



**Vendor\_Filter**

- (All)
- OTHER
- BIOMET
- SMITH & NEPHEW
- STRYKER
- ZIMMER

**Site**

- (All)
- Hospital 1
- Hospital 2
- Hospital 3
- Hospital 4
- Hospital 5

**SUPPLY TYPE**

- (All)
- CEMENT
- IMPLANT
- NON-IMPLANT
- TISSUE

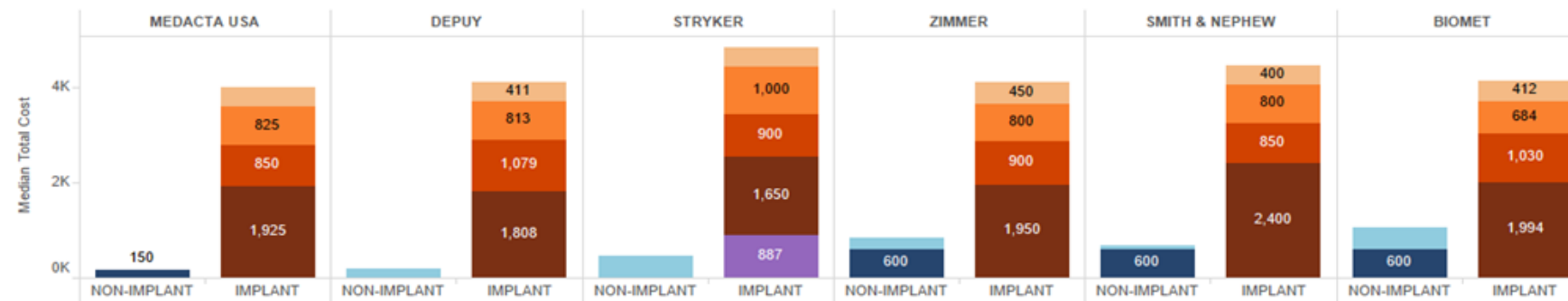
**SUPPLY TYPE**

- CEMENT
- IMPLANT
- NON-IMPLANT

**SUBCATEGORY**

- PATELLA
- TIBIAL INSERT
- BASEPLATE
- FEMORAL COMPONENT
- BLADES
- CEMENT MIXING KIT
- DRILL BITS & PINS
- HIGH COST ADD ONS
- MISC
- STEM

MFR CONSTRUCTS

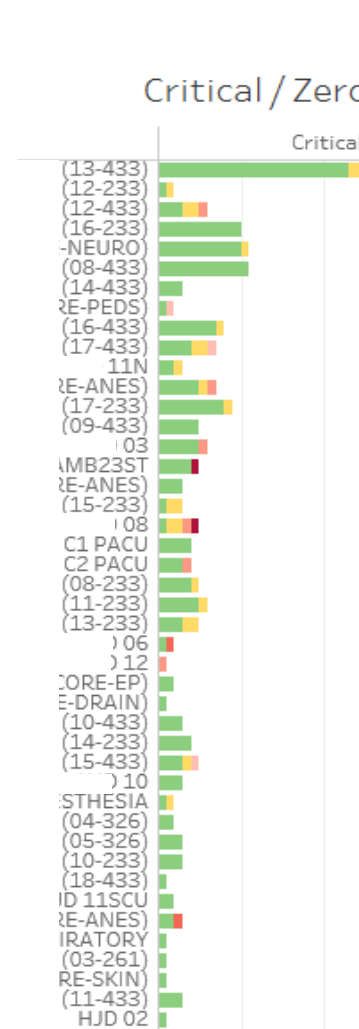
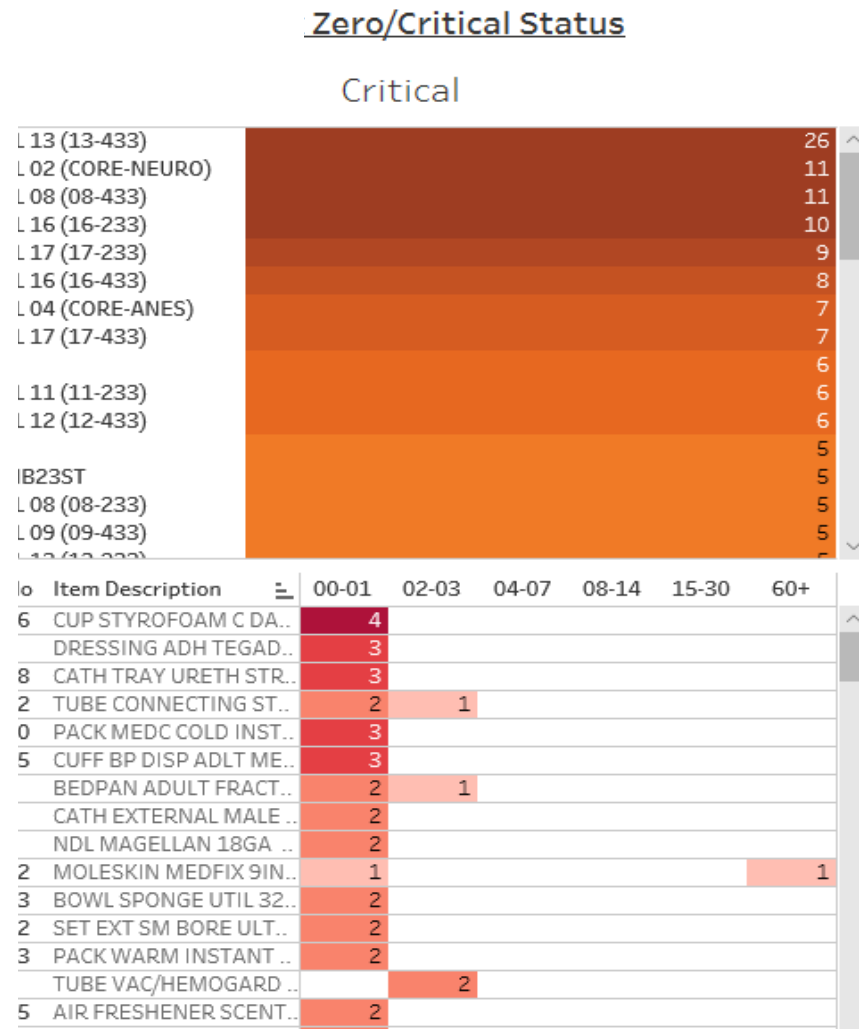
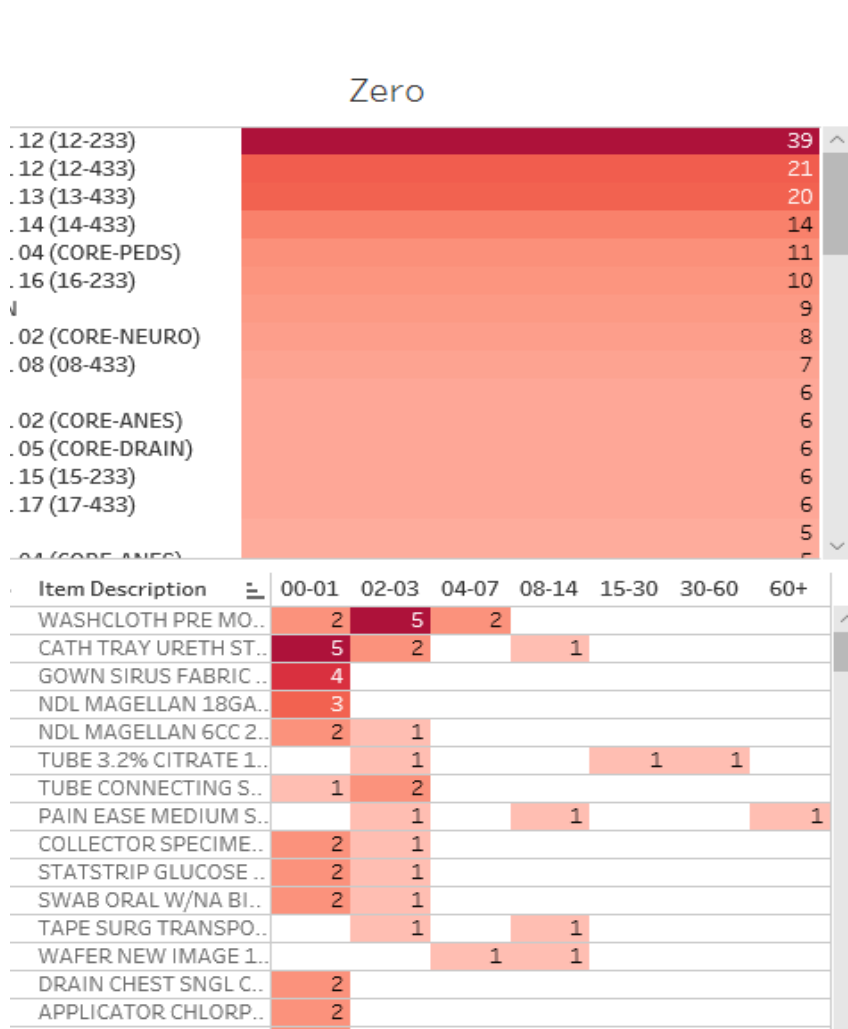






# Variability-Driven Logistical Operations

## Stock Out/Backorder Forecasting



# Variability-Driven Logistical Operations

## Call Center Item Trends

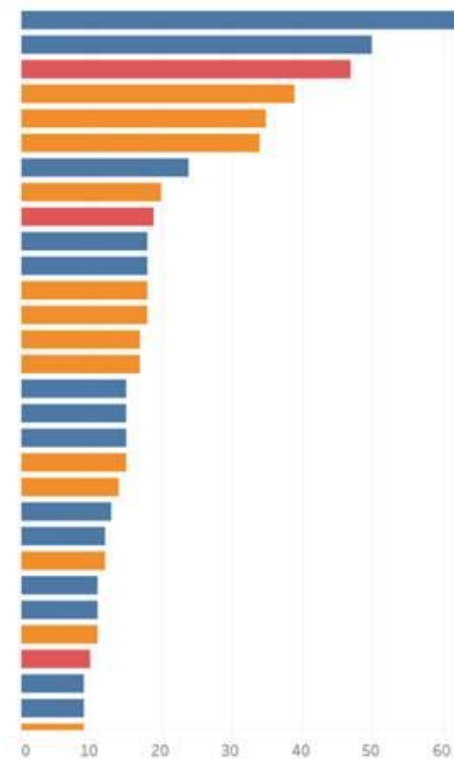
Call Center Activity (45 Days)



Calls by Facility



Calls by Department



Top Items

12 URINALS	1
BLUE CHUX	1
BONE MARROW KIT	1
NS 100ML	1
Insyte Autoguard Syringes	4
3 LITER NS	4
NEONATAL CODE CART	4
NS 250ML	4
STRAIGHT CATHETER KITS	4
ABDOMINAL BINDER	4
BAIR HUGGER WARMING UNIT BLANK..	100
BATH CLOTH	100
Crutches	100
D5 LR 1L	100
ISOLATION GOWNS	100
IV SYRINGE 60ML	100
LEG BAGS	100
NEO NATAL CART - NEED REPLACEMENT	100
Nitro Gloves	100
NYU PURPLE BAGS	100
PARACENTESIS KIT	100
PEDIATRIC CODE CART	100
PEDIATRIC CODE CART - NEED REPLAC..	100
PEPPERMINT OIL	100
PREVALON BOOTS	100
PRISMASATE	100
100CC BAGS NS	20
10CC FLUSH	20
3 LITER BAGS NS	20
4 Liter Empty bag for paracentesis	20
60ML SYRINGES	20

Calls by Shift

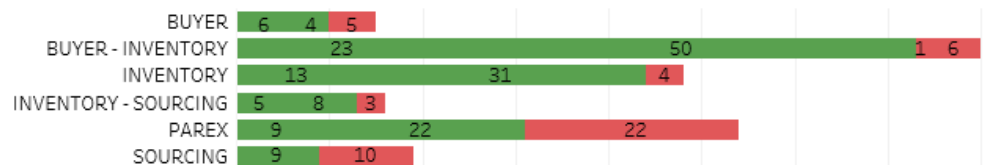


# Variability-Driven Logistical Operations

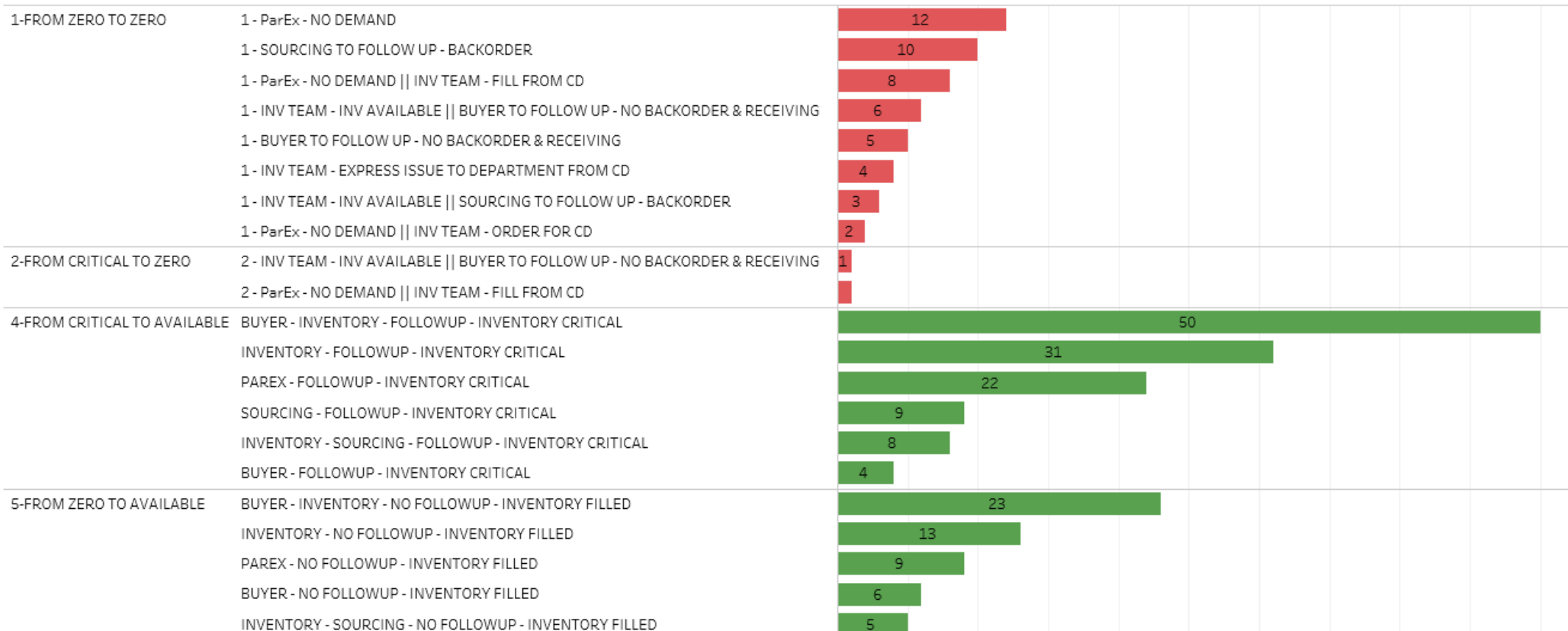
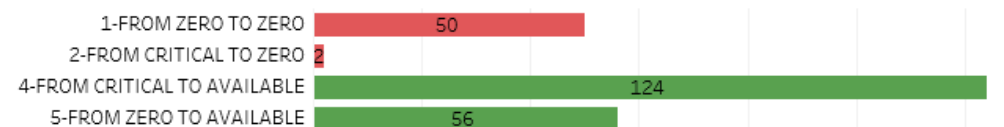
## Demand Planning

## End to End Order Cycle

Team Grouping



Priority Grouping





**WHY DOES IT MATTER?**



# Executive Engagement

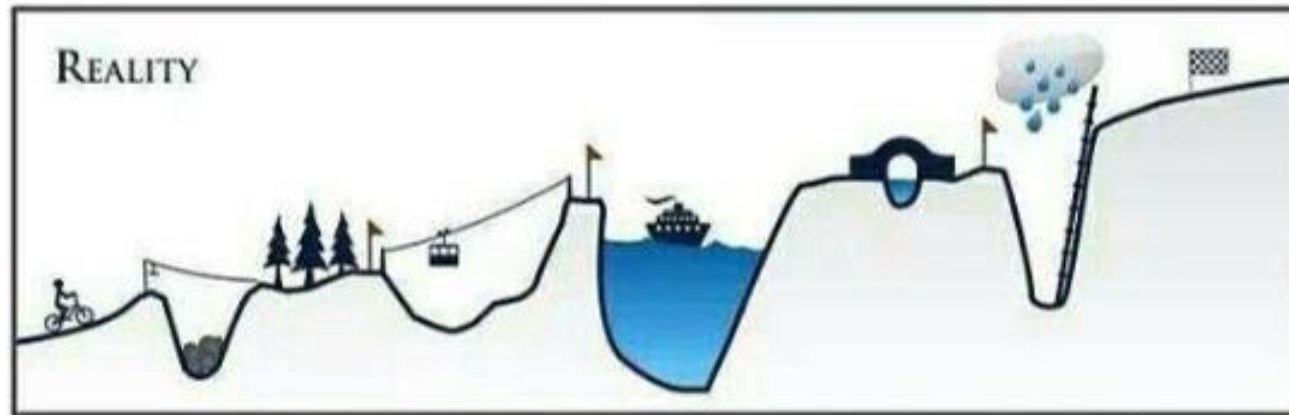
- **Guides supply chain to help determine strategic priorities and long-term performance goals**
  - Supports strategic priorities (balanced scorecard); culture & capabilities, performance excellence, and access
  - Reduce unnecessary costs, improve service performance, drive clinical supply chain integration
  - System value is evolving beyond price; realizing bottom-line efficiency is now more important than ever
- **Develops the multiyear standardization strategy**
  - Drives standardization and expense management efforts; determines targets, initiatives, and monitors performance; initiative sponsors provide regular committee updates
- **Designed to leverage a cross-section of senior executive leadership within the organization; members serve in a holistic capacity, focus on system decision-making regardless of business area**
  - Champions the clinical value program (value analysis)
  - Leads cultural change
  - Removes barriers

# Critical Success Factors

- **Executive alignment**
- **Successful transformation efforts align accountability with authority**
- **Supply chain vision and business strategy aligns with organizational priorities**
  - Long-term performance roadmap
  - Clear deliverables
  - Visibility
- **Redefine the supply chain value proposition (HRO)**
- **Transactional to value-based**
  - Raising expectations
  - Upfront investment (resource allocation)
  - Talent management (engrained HRO and analytics culture)
- **Physician alignment**
- **Communication**



# Pathway...





Less waste and reduction in cost per case for supplies



Decrease in room turnover time and procedure delays



Increased accuracy in billing for product



Improved data management and reporting capabilities



Increased MD and OR staff satisfaction



Fewer trips out of the room for the circulator chasing supplies, allowing more time to dedicate to patient care



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**THANK YOU**

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