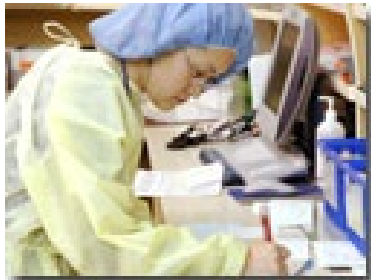
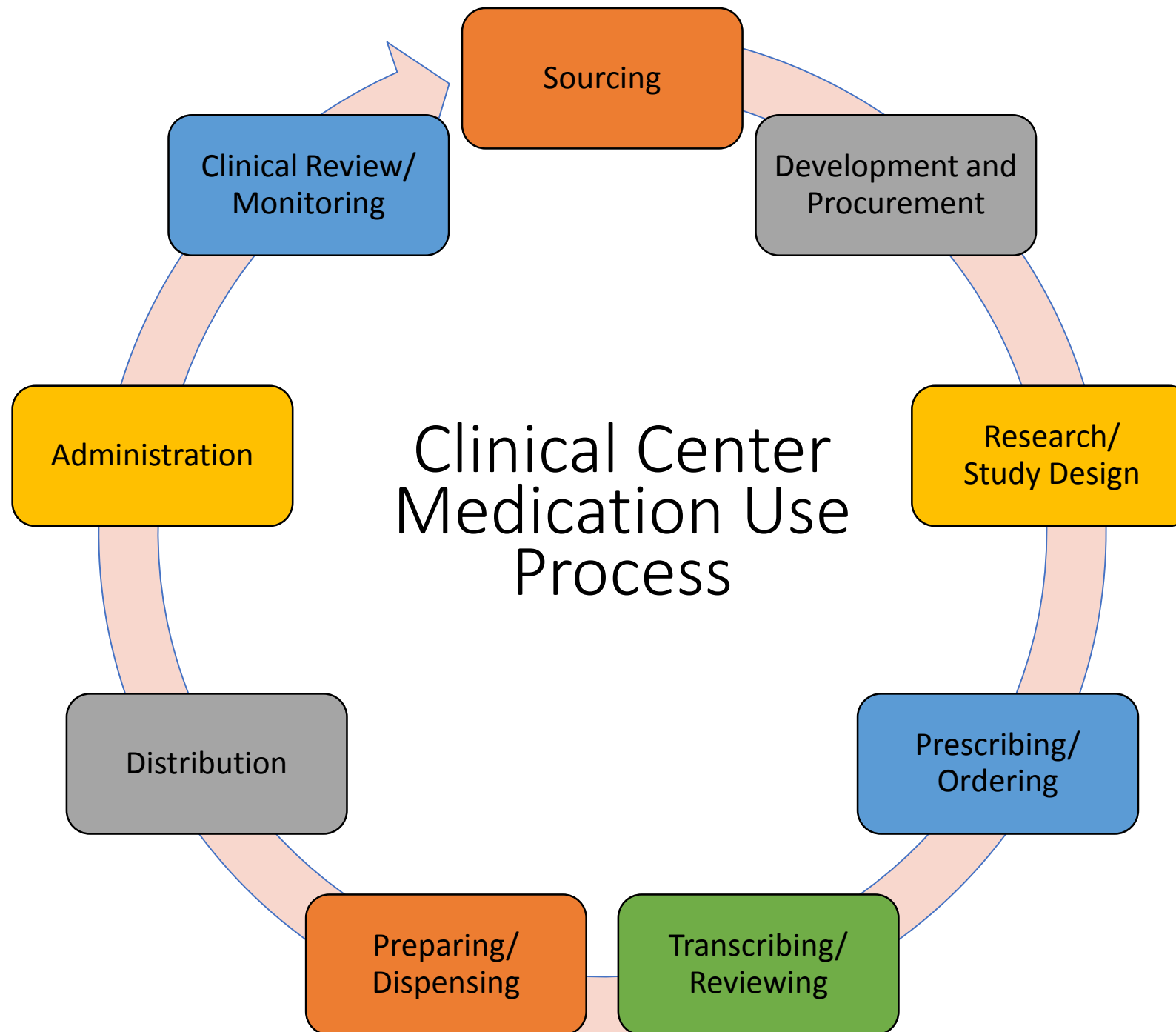


Department of Pharmacy Updates and Future Developments

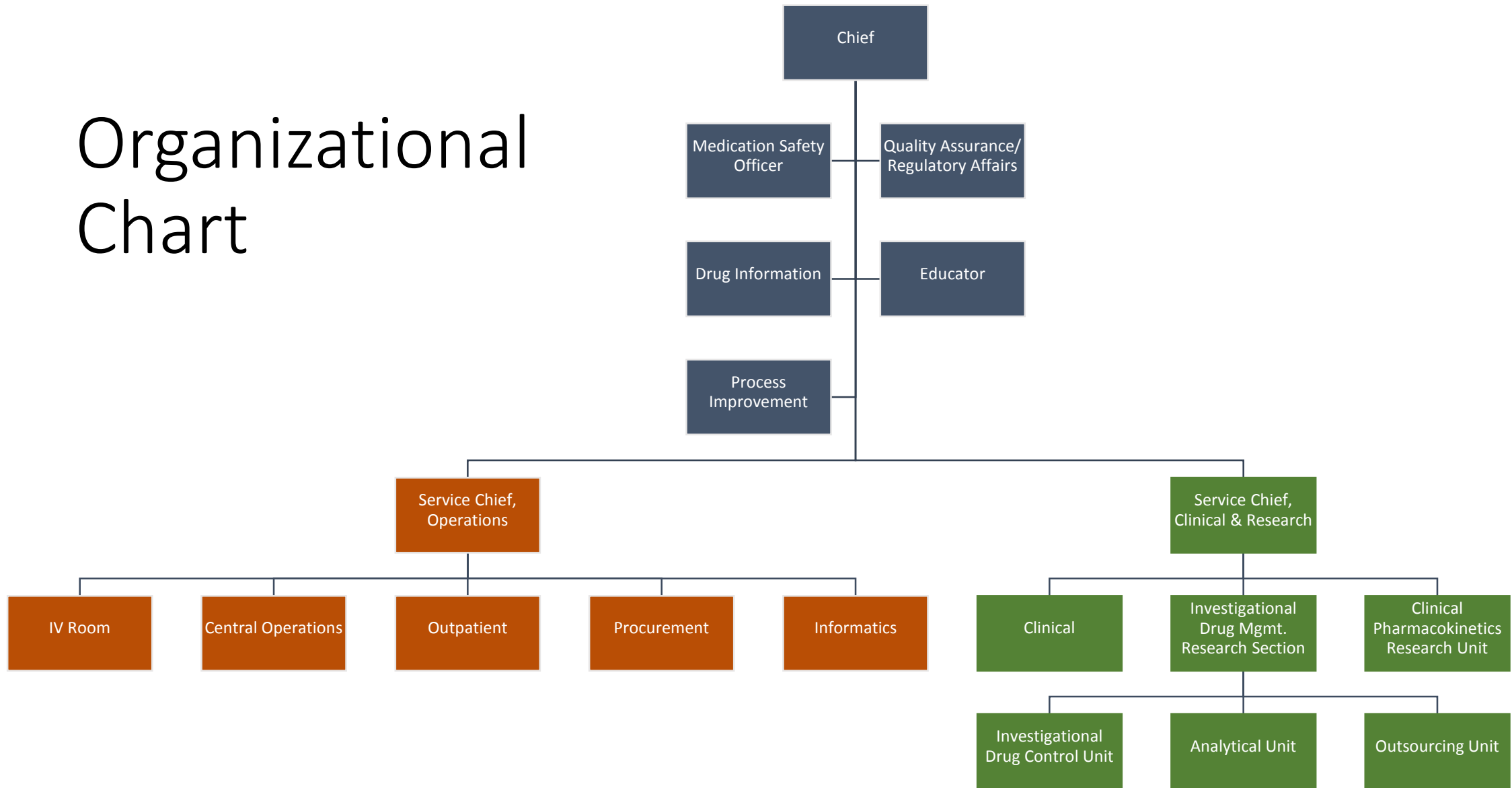
Majid Tanas, PharmD, MHA, MS
Chief, Department of Pharmacy

Unlike most other pharmacies, the pharmacy enterprise spans the entire spectrum of medication development and use. This causes us to have unique problems and become somewhat different than any other department.





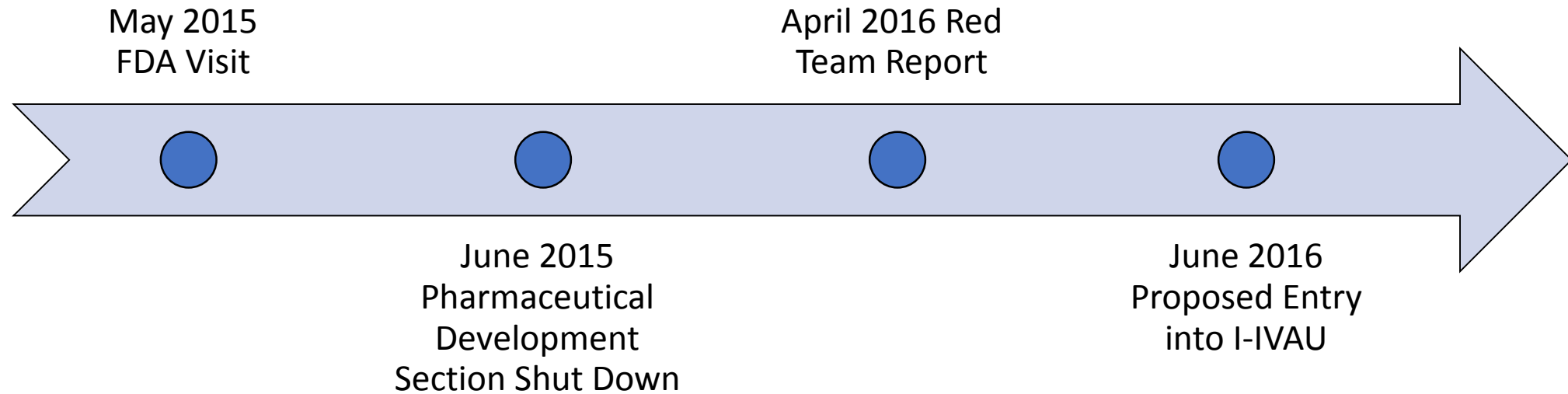
Organizational Chart



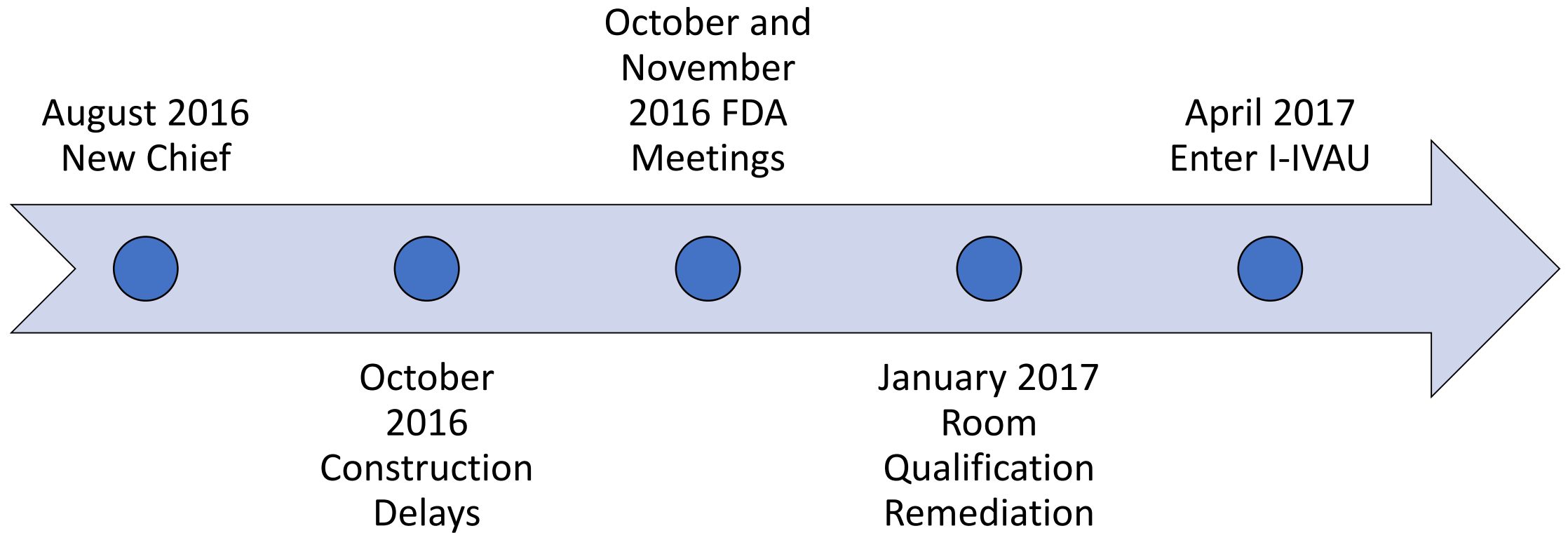
Our Leadership Team



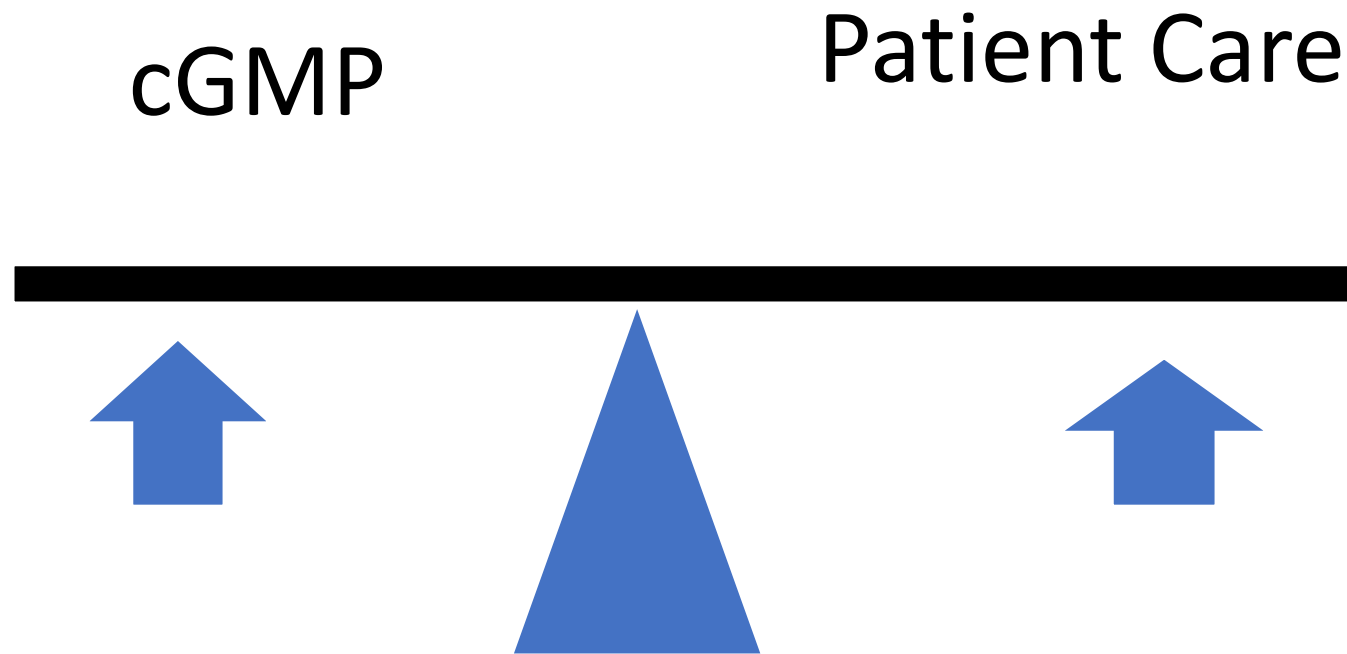
A Shift in Course



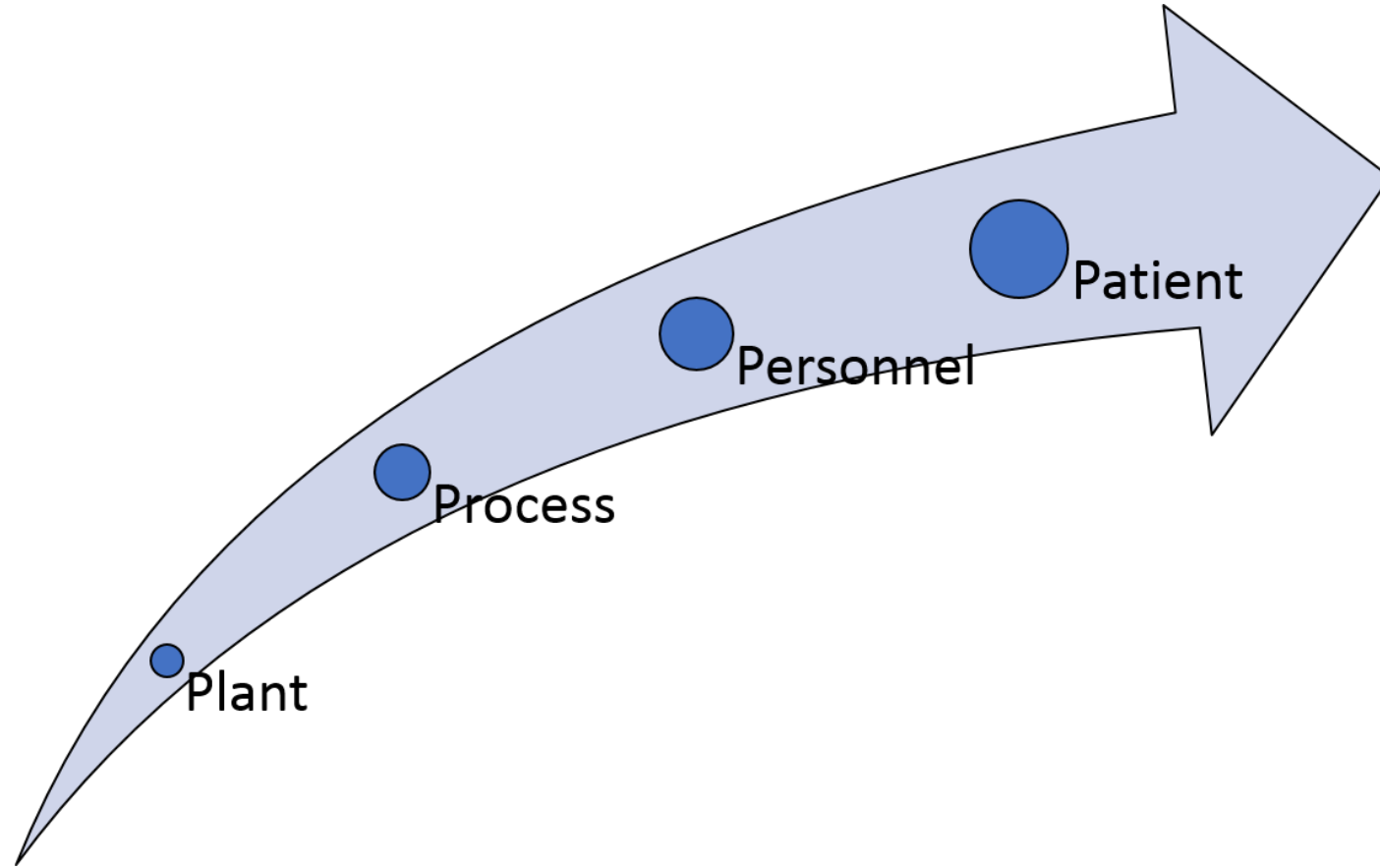
A Shift in Course



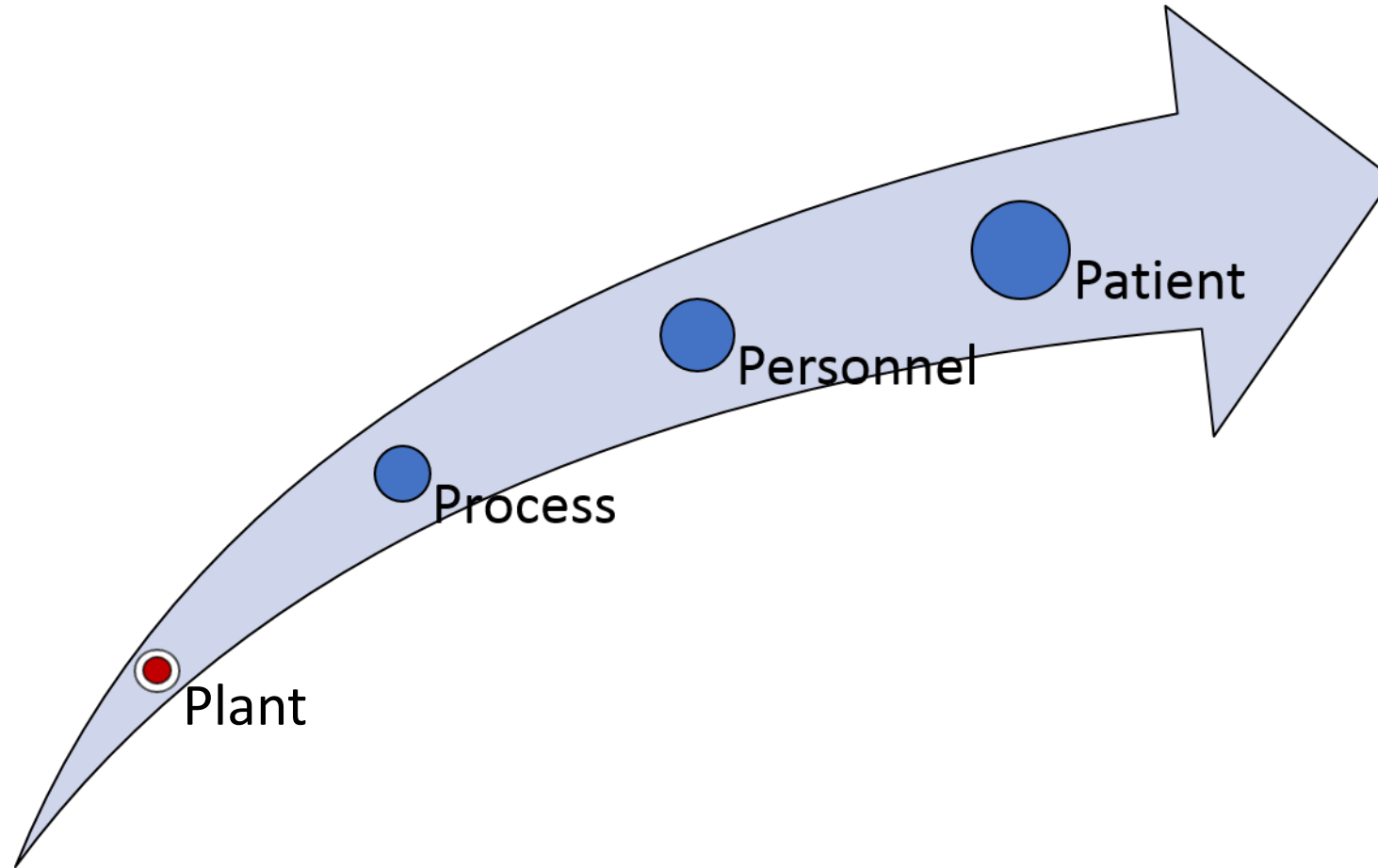
Closing the Gap Between Care Models



Road Map to Improved Care



Road Map to Improved Care



Road Map to Improved Care

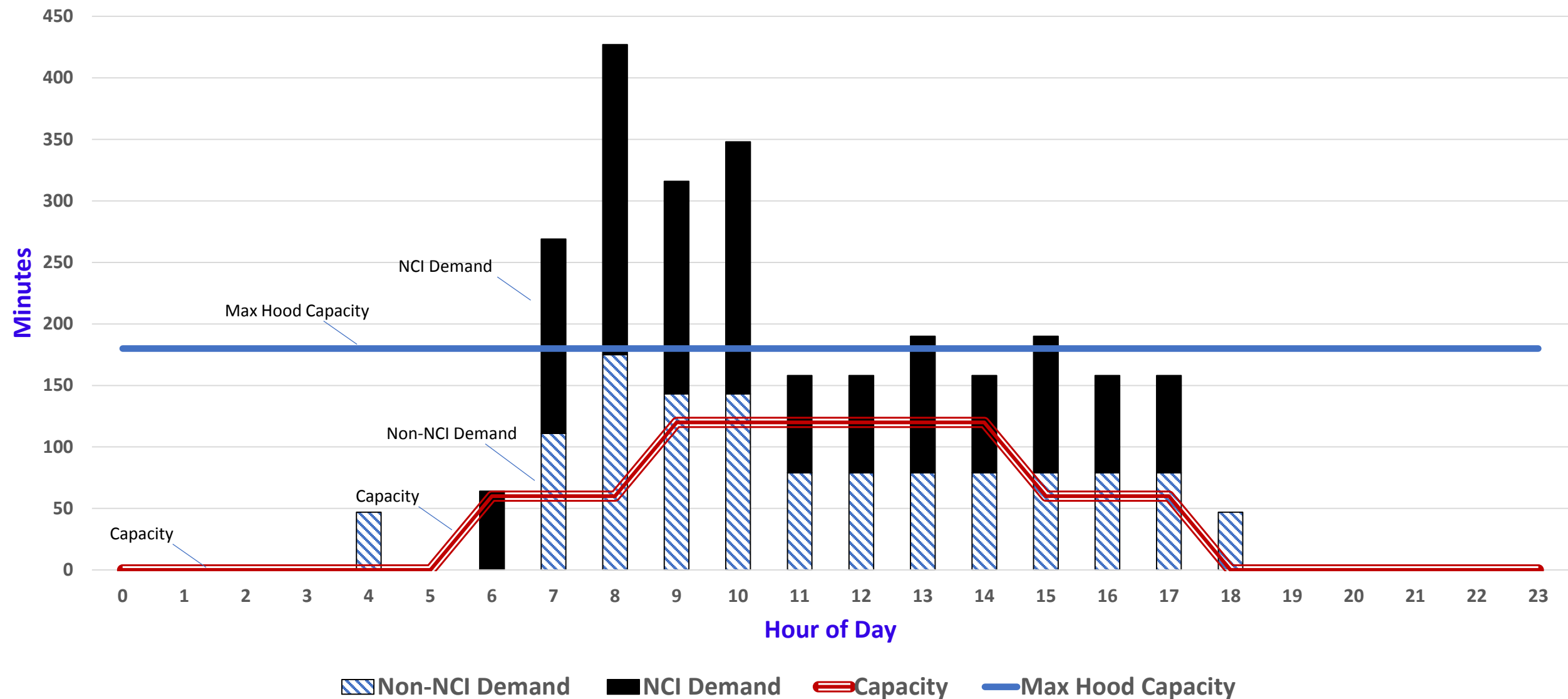
- Plant

- Change in mentality to a more pharmaceutical grade operations
- Pass through into critical spaces
- Separation of classified areas by doors
- Room have adequate monitoring controls to ensure differential pressure
- Facility has been separated between hazardous preparation and non-hazardous preparation





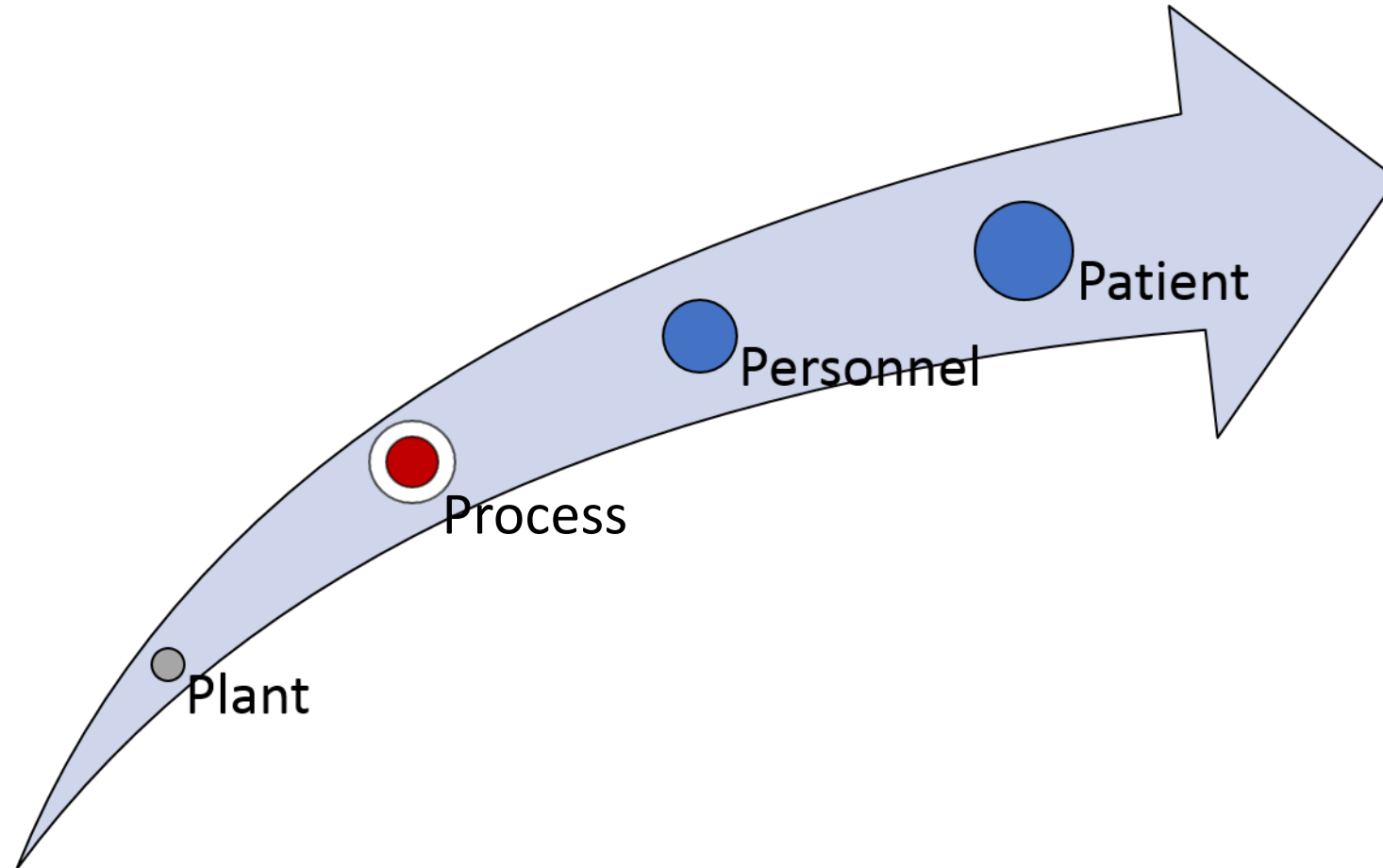
Hazardous Q1 2017 CY Average Time in Hood vs Capacity Wednesday



Phases for cGMP spaces



Road Map to Improved Care

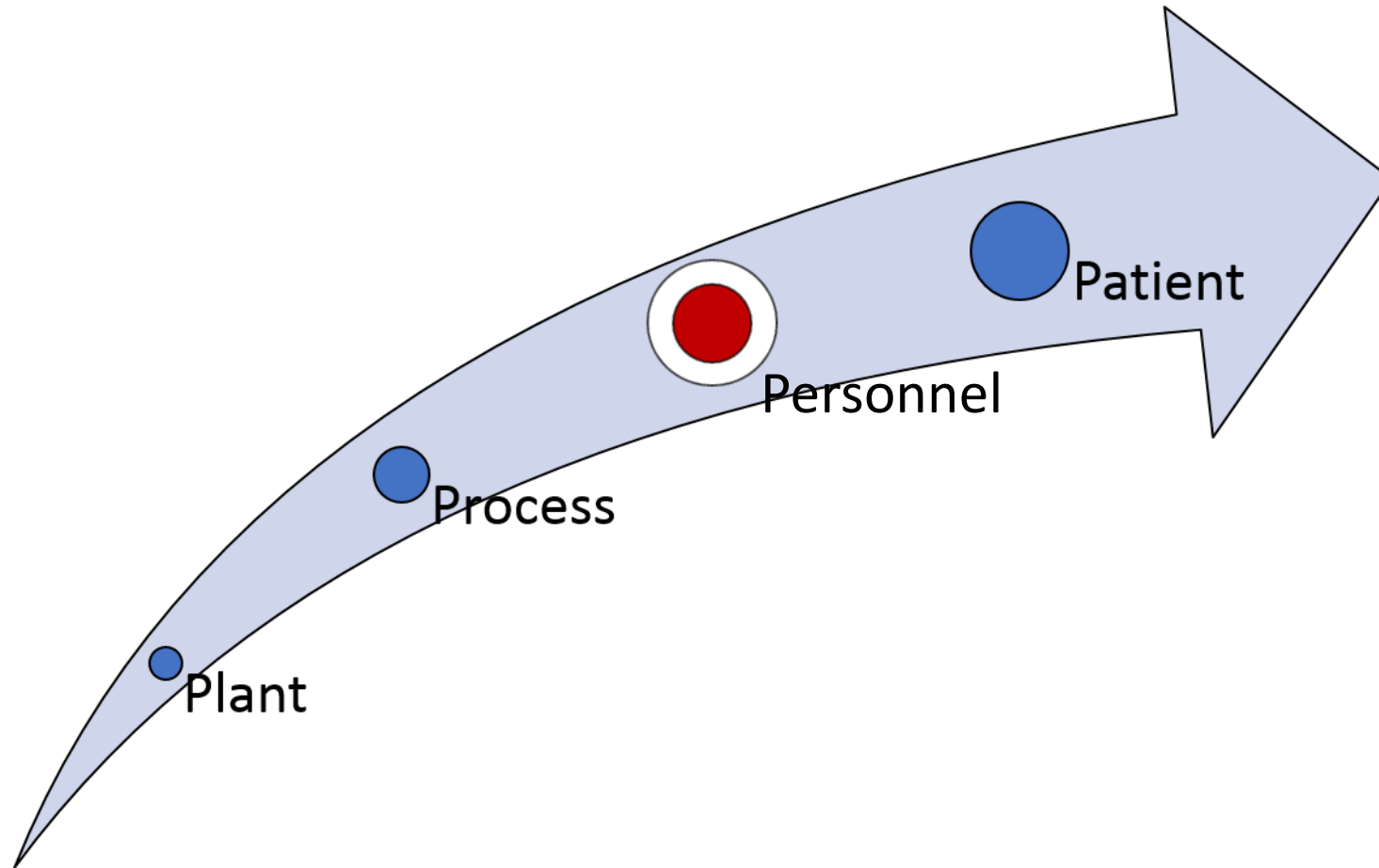


Road Map to Improved Care

- Process

- Policies and SOPs have been developed and implemented
 - Continual development with more experience in our facility.
- Data trends and observations are helping solidify our processes
- We have had several external audits to check our progress
- Establishment of Quality Management System
- Moving from an oral to written to electronic tradition

Road Map to Improved Care



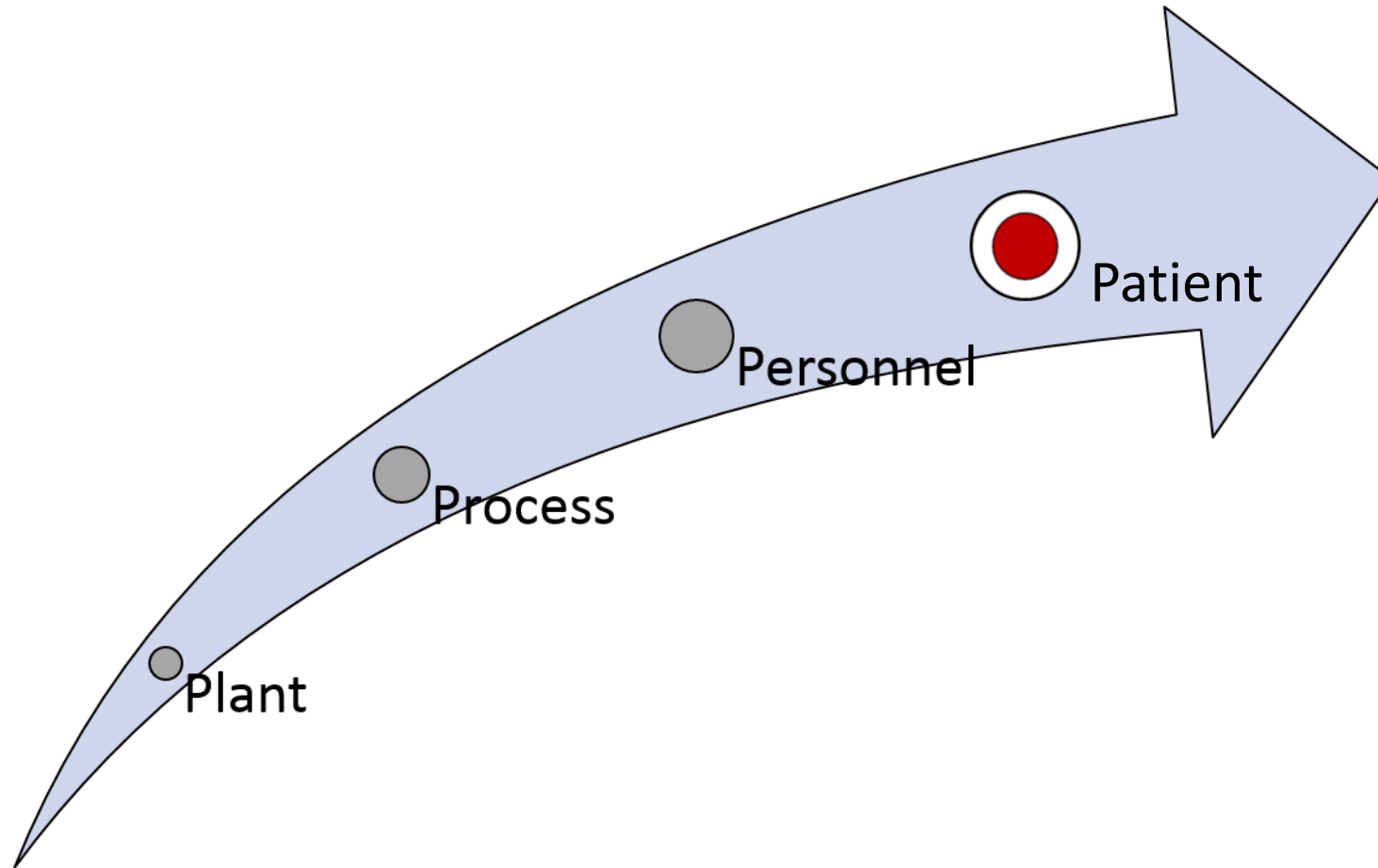
Road Map to Improved Care

- Personnel

- Work on hiring and developing strategies with our HR partners to fill openings
- Development of a committed workforce that is changing the culture to a more GMP functioning hospital pharmacy
- Empowering staff to stop production if there are any issues
- Embracing a culture of safety
- Establishment of standardized work
- Improved FEVS scores



Road Map to Improved Care



Road Map to Improved Care

- Covering the continuum of care and increasing the relationships between investigators and nurses
- Providing increased flexibility for researchers in our systems
- Increasing our accountability and process improvement



Returning to basics

- New leadership team and structure
- Training and competency
- Systems of checks and balances
- Questioning the historical practices
- Striving towards becoming a High Reliability Organization
- Strengthening relationships with researchers, care providers, and nursing

Completed Items

- FDA remediation of original 483 items
- Formulary resource development
- Implementation of wireless pump in the treatment of patients to utilize guardrails
- Automated Dispensing Cabinet roll out in the Operating Room and patient care areas
- Ambulatory care Automated Dispensing Cabinet

Completed Items

- Institute of Safe Medication Practice and establishment of a Medication Safety Committee
- Joint Commission visit
- Proposals for 8 major system installation/upgrades
- Numerous journal publications

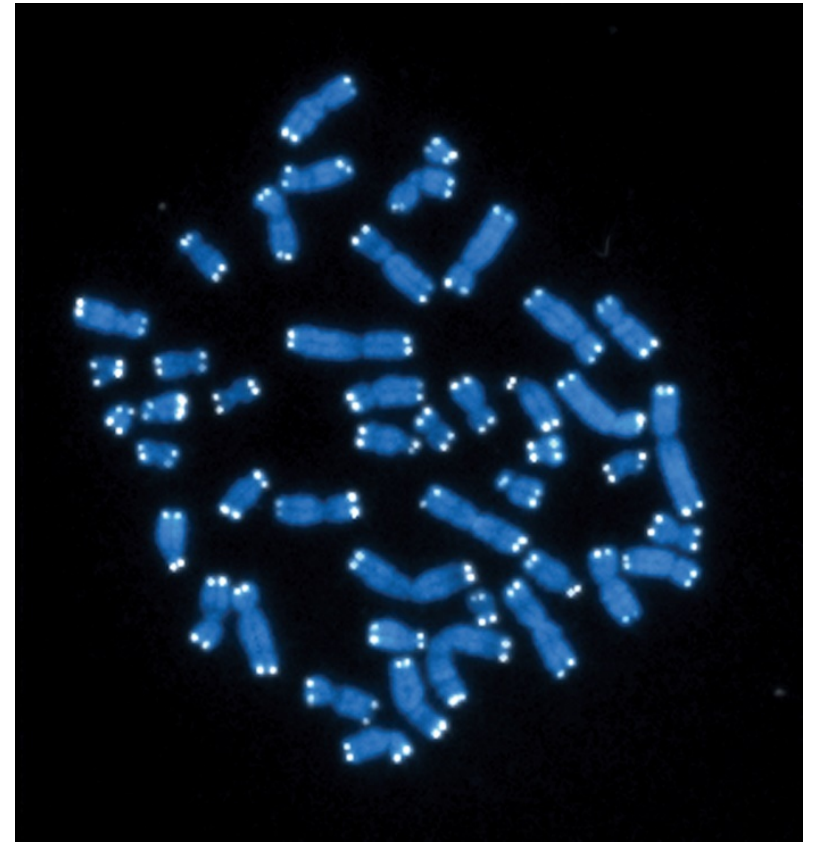
Becoming more reliant on technology

- Current processes are heavy manual (e.g., cart exchange, work cards) - moving towards creating a fully automated core
- Increasing inventory on the floors with our Automated Dispensing Cabinets
- Increasing utilization of technologies such as barcode medication administration on the floor (right patient, medication, and time)
- Increase patient safety and quality of care



Targeted approach to improve systems

- IDMS replacement
 - Pursuing home grown solution replacement
 - Ensure ongoing compliance with national standards
 - Enhanced record keeping
- Automated Inventory Controls
 - Improve access to medications to patient care areas
 - Central inventory management solutions
 - Tracking of medication and diversion
- IV Workflow
 - Removing paper process
 - Barcoding and imaging
 - Enhance safety and quality



Ongoing opportunities

- At the direction of the FDA, we are working towards a higher level of care
- Expanding aseptic area to meet patient care demands
- Meeting new standards for hazardous medications
- Maintaining the facility in light of the rigorous cleaning schedule
- Improvement of the Quality Management System
- Improving patient education of their medications

Medication Safety Trends

Dachelle Johnson, PharmD, BCPS

Overview

- Medication safety issues span the entire spectrum of the medication use process
- Every physical move adds a new layer of medication safety challenges
- Clinically significant needs to customize makes standardization and simplification difficult
- Continuing to establish controls within our system to manage the safety portfolio of our unique medication use process

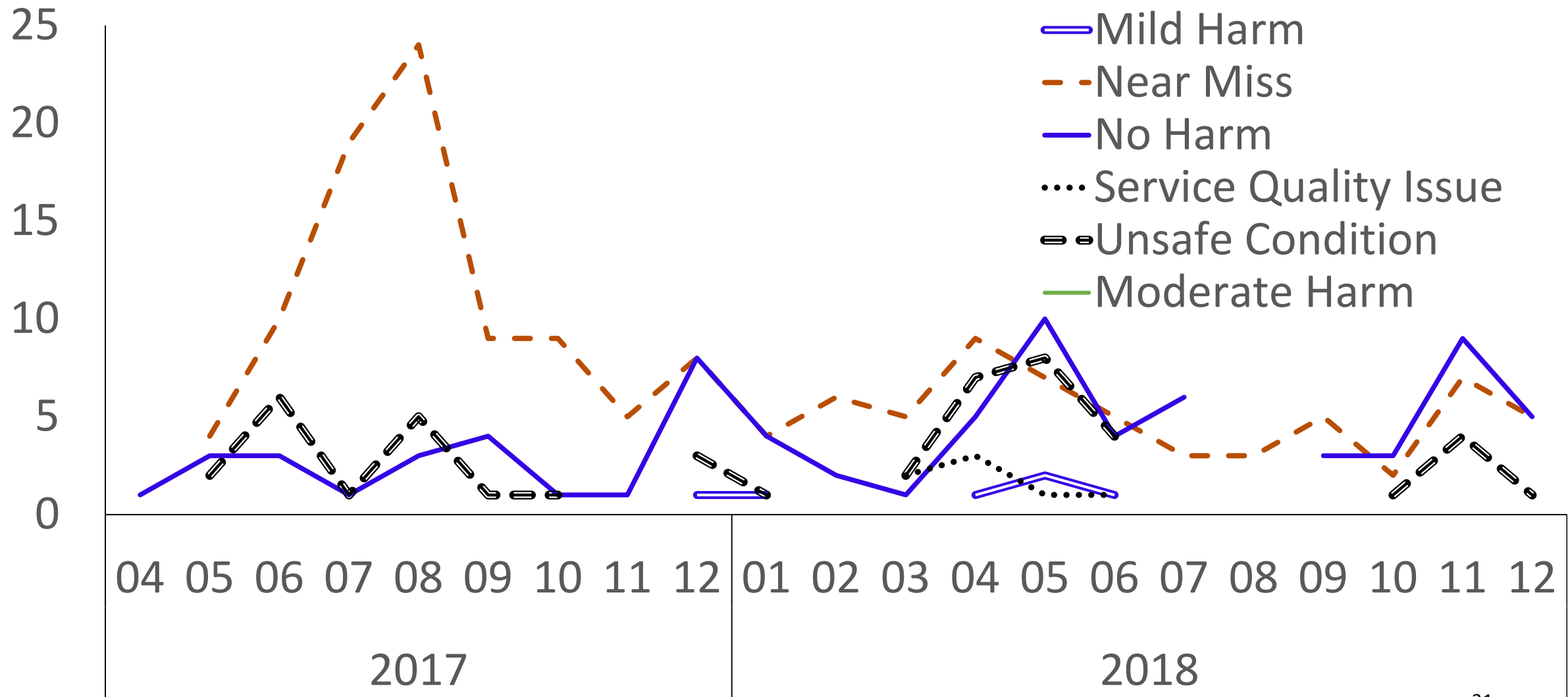
Institute for Safe Medication Practices (ISMP)

- February 20 – 23, 2018 interdisciplinary team of consultants performed a system review of medication use
- Provided us with a comprehensive list of recommendations to work through as an institution
- An interdisciplinary team of CC Departmental Leadership reviewed the recommendations and identified project leads for the observations from the report
- Progress updates are made quarterly to CC executive leadership
- The goal is to complete all projects over the next 3-5 years and invite ISMP back for reassessment

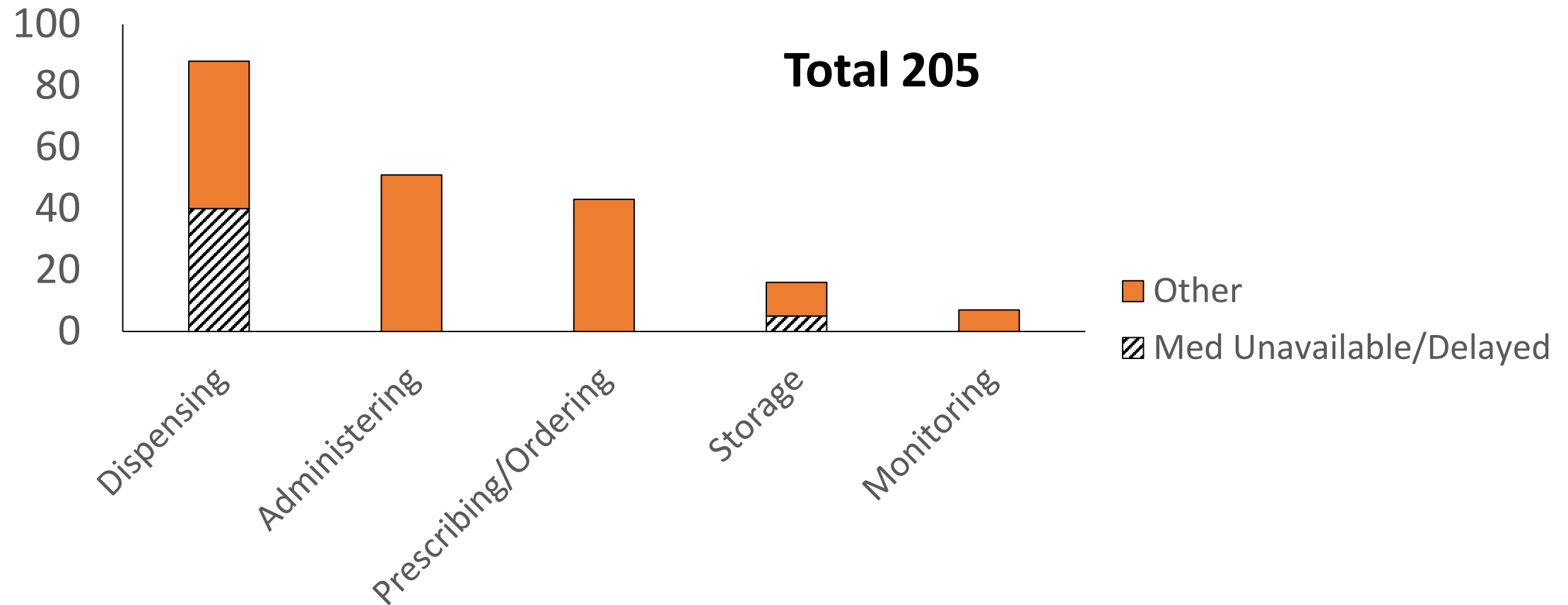
Major Themes from ISMP Report

- Culture of safety
- Staff competency and education
- Environment, staffing, and workflow
- Drug storage, stock, standardization, and distribution
- Automation, clinical decision support, software enhancements, device acquisition, and monitoring

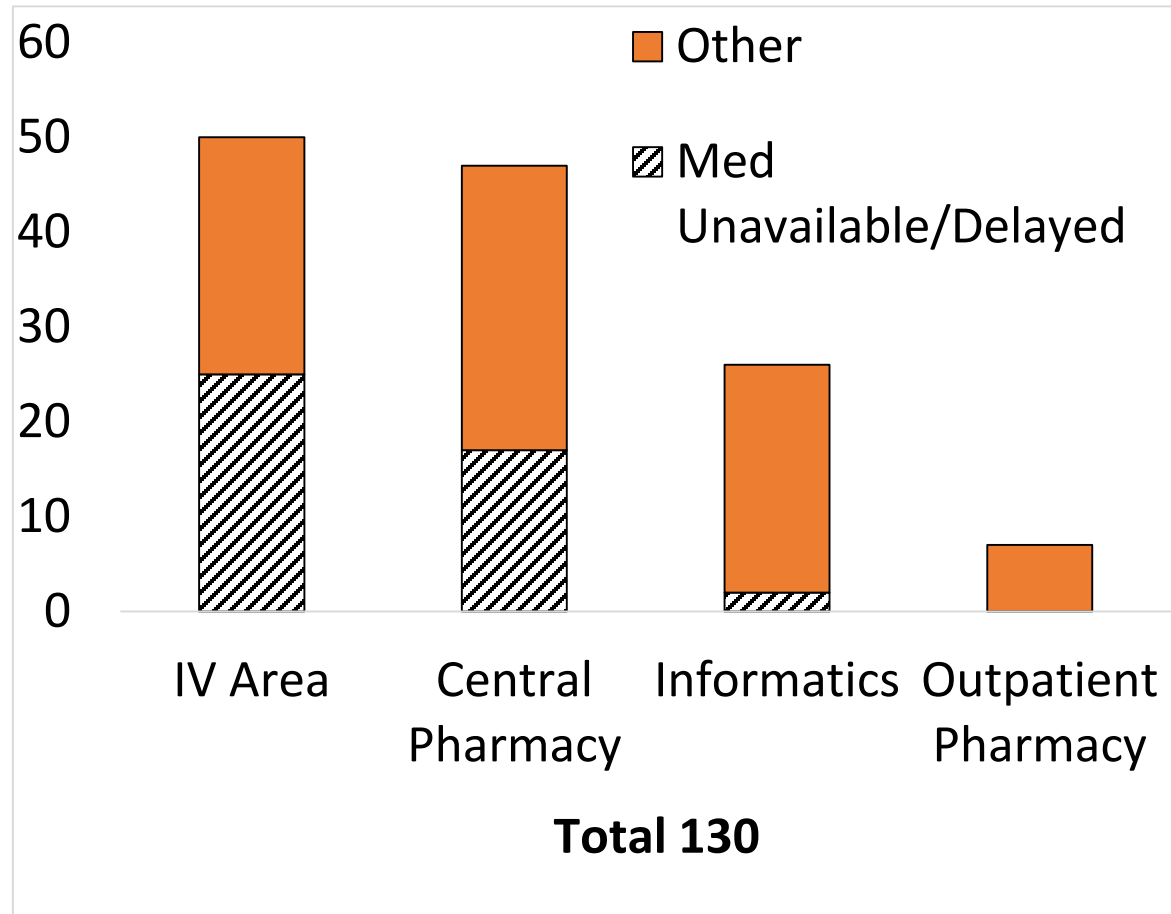
Dispensing Errors Trends



CC Medication Related Event Trends, Q1FY19



Pharmacy Related Event Trends, Q1FY19



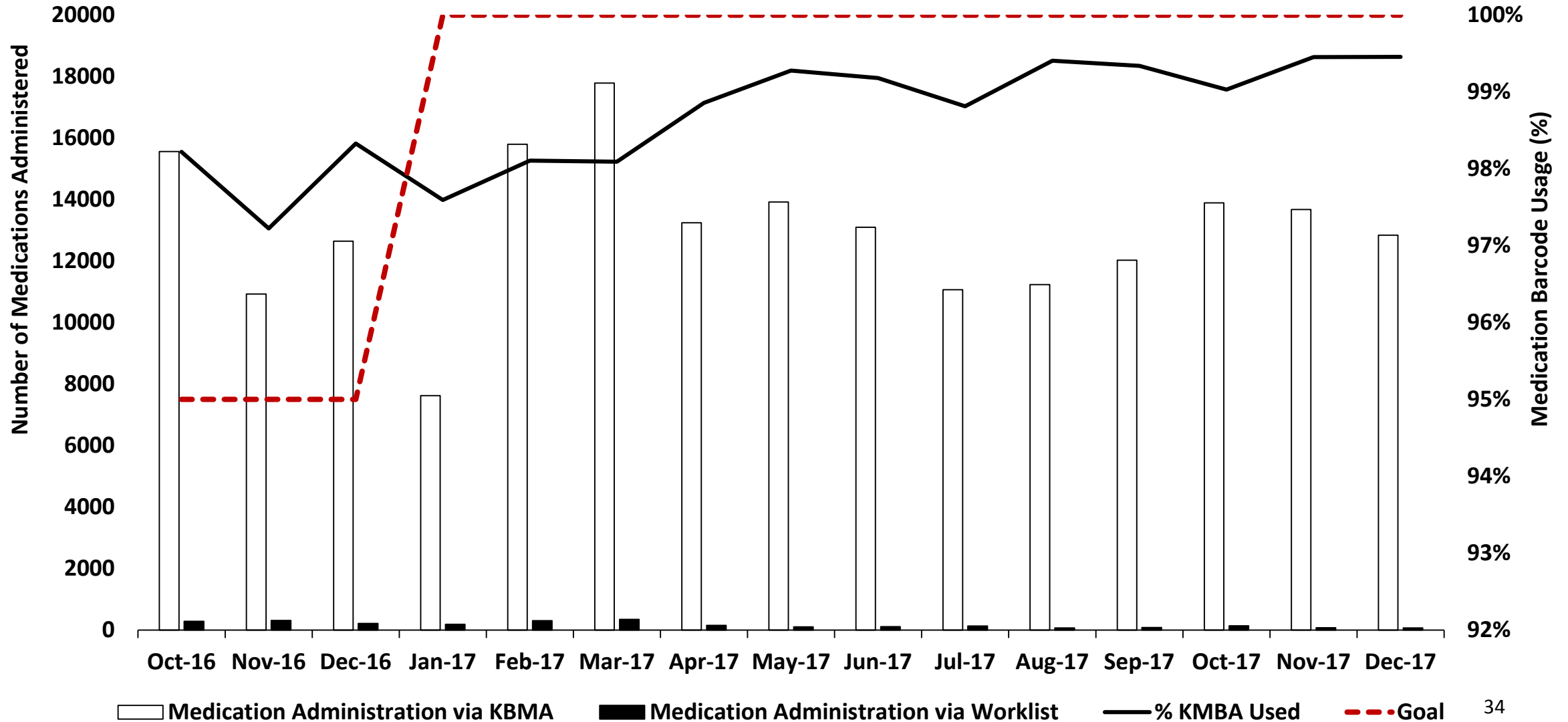
- IV Area
 - Delays, limited beyond use dating, manual expiration dating, delivery issues
- Central
 - Delays, incorrect diluent, cart exchange, timing and volume of nonsterile compounding
- Informatics
 - Barcoding, Automated Dispensing Cabinets, PCA pump issues (use of manual mode), EMR (clinical decision support)
- Outpatient
 - Lack of orders, shipment, order verification
- Investigational Drug Section
 - Sponsor labeling, onsite labeling, expiration dating, drug accountability

Knowledge Based Medication Administration

Medications Administered and Medication Barcode Usage (%)

3NE Inpatient Unit

October 2016 - December 2017



Future Direction

- Increased automation to enhance safety
- Increase capacity to improve patient experience and support research
- Solidify process to improve across the pharmacy enterprise
- Elevate staff to the new standards and direction



Majid Tanas, PharmD, MHA, MS
Chief
Department of Pharmacy

Dachelle Johnson, PharmD, BCPS
Medication Safety Officer
Department of Pharmacy