BETSY LEHMAN CENTER for Patient Safety

This presentation deck was modified from the call before posting publicly to protect proprietary information.

# Pilot of an automated adverse event monitoring system in Massachusetts

INFORMATION SESSION #2: ANALYTICS AND IMPROVEMENT SUPPORT

May 3, 2024

# Agenda

- Pilot goals
- The problem
- The field: Why now?
- The solution: Automated event detection and timely, actionable data
- Pilot program implementation
- Confidential data sharing and evaluation

# Pilot goals

To demonstrate whether and how this approach:

- Produces daily validated data on a wide range of safety events that hospitals can use to inform and power their existing improvement systems and activities.
- Helps hospitals achieve significant and sustained improvements of patient outcomes by reducing preventable harm events.
- Eases the burden of manual reporting on frontline staff, while promoting a culture of safety and workforce well-being.
- Serves as a source of meaningful information on statewide patient safety events, risks, and trends.
- Reduces costs associated with preventable harm events at the individual hospital level and statewide.

# Pascal Metrics' role in the pilot

**The Pascal mission is to improve patient safety and quality of care by offering the best outcomes data worldwide, enabled by technology and expert services**

# What results a pilot hospital can expect from participating

**To have achieved by pilot end:**

- ✓ Identified ~10x serious harm
- ✓ Have begun to improve AE Outcomes
- ✓ Identified PCEs in volume, and much sooner
- ✓ Used AE Outcomes & insight in peer review
- ✓ Demonstrated ROI opportunity of >3x/year

**To be positioned to achieve at pilot end:**

- ○ Scalably identify more harm efficiently, effectively
- ○ Reduce harm by >25% compared to baseline
- ○ Transform QI into more timely capability, identifying & reducing other events, patterns
- ○ Reduce payouts and associated legal/other costs
- ○ Convert patient safety to integrated program with risk and source of “CFO-grade” value
- ○ Apply VPS more fully to revenue cycle, positioned to avoid new CMS penalties

# The problem

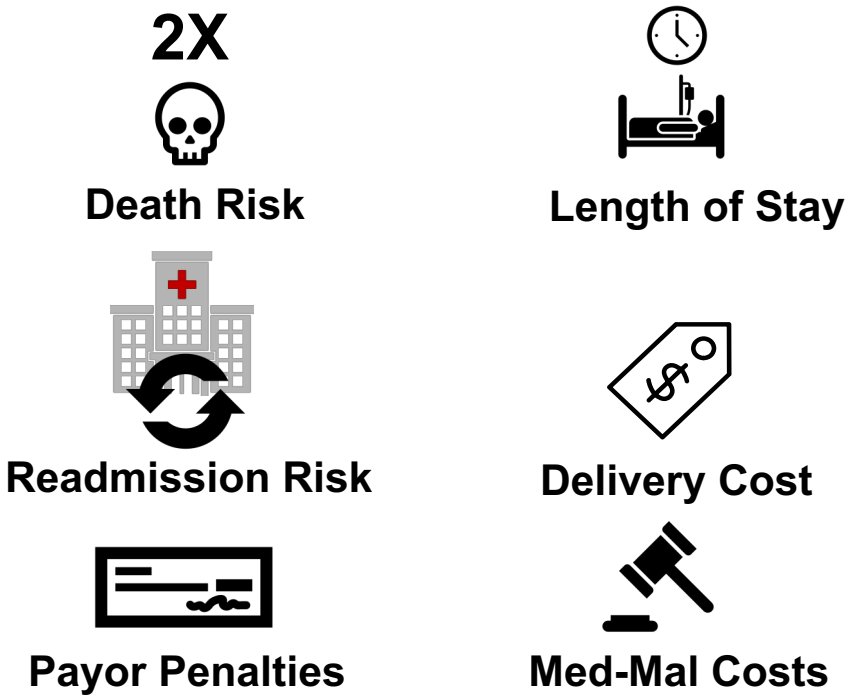
# Preventable injury and death materially missed, increasing costs and impacting financial performance

**Clinically**, the standard “See Something Say Something” event reporting not reliable:

95%

of patient harm goes **unreported**

**Financially**, in care delivery systems these unreported events negatively impact financials:




Sources: James JT: A new evidence-based estimate of patient harms associated with hospital care, *Journal of Patient Safety* 9:122-128, 2013. Classen et al., ‘Global trigger tool’ shows that adverse events in hospitals may be ten times greater than previously measured. Health Affairs (Millwood). 2011; 30:581-9. U.S. Department of Health & Human Services, Office of Inspector General, “Hospital Incident Reporting Systems Do Not Capture Most Harm, 2012. Adler et al, *Journal of Patient Safety*, March 2015. AHRQ Quality Indicators Case Study: Yale New Haven at https://www.qualityindicators.ahrq.gov/Downloads/Resources/Case_Studies/AHRQ_QI_YNHHS_Case_Study.pdf. Pascal Metrics U.S. Community Collaborative member data.

# Without AE outcomes*, operations impaired enterprise-wide


Very poor identification of patient harm in a timely accurate way

Reliance on external body calls to action vs. “my” patient harm data

Over-emphasis of compliance data – less operationally useful

Inability to go “upstream” in managing liability payout risk

Necessary to manage effectively in a value-based world


Inability to drive high reliability programs with data

Lack of visibility on common cause contributors

Poor identification of adverse event-associated quality variation

*AE Outcomes = Clinically Validated Adverse Event Outcomes using real-time Health IT Data

# Emerging evidence that current harm identification is inequitable

## African Americans

**60-65%**

**Less likely to have safety events reported**
in a voluntary event reporting system

Race Differences in Reported Harmful Patient Safety Events in Healthcare System High Reliability Organizations

*Angela D. Thomas, DrPH,* Chinmay Pandit, MHI,* and Seth A. Krevat, MD†*

Journal of Patient Safety: December 2020 - Volume 16 - Issue 4 - p e235-e239

BRIEF REPORT

Patient Characteristics Associated With Voluntary Safety Event Reporting in the Acute Care Setting

Danielle P. Thurtle, MD, Sara B. Daffron, MD, Elizabeth E. Halvorson, MD, MS

*Hospital Pediatrics;* February 2019; 9 (2): 134–138.

## Latino Children

**~2X**

**More safety events detected**
by automated trigger tool

BRIEF REPORT

Racial, Ethnic, and Socioeconomic Disparities in Patient Safety Events for Hospitalized Children

David C. Stockwell, MD, MBA,[a,b] Christopher P. Landrigan, MD, MPH,[c,d,e] Sara L. Toomey, MD, MPH, MPhil, MSc,[c,d] Matthew Y. Westfall, BA,[c] Shanshan Liu, MS, MPH,[f] Gareth Parry, PhD,[d,g] Ari S. Coopersmith, BA,[c,h] Mark A. Schuster, MD, PhD,[c,d,h] for the GAPPS Study Group

*Hospital Pediatrics; January* 2019; 9 (1): 1–5.

# The field

WHY NOW?


BETSY LEHMAN CENTER for Patient Safety

# Multiple drivers accelerating adoption nationwide


1. Evidence

2. Regulators

3. Influencers

4. Payors & Insurers

5. Transparency

FDA

CMS

AHRQ

"We've made progress…in particles of care…but we've not made healthcare systematically [safe]…and we won't, we can't, until we take stock of safety levels in organizations systematically."

"Measuring Patient Safety in Real Time: An Essential Method for Effectively Improving the Safety of Care."

Annals of Internal Medicine

BEST USNews RANKINGS

LEAPFROG HOSPITAL SAFETY GRADE

yelp

Humana

Walmart

BlueCross BlueShield

BOEING

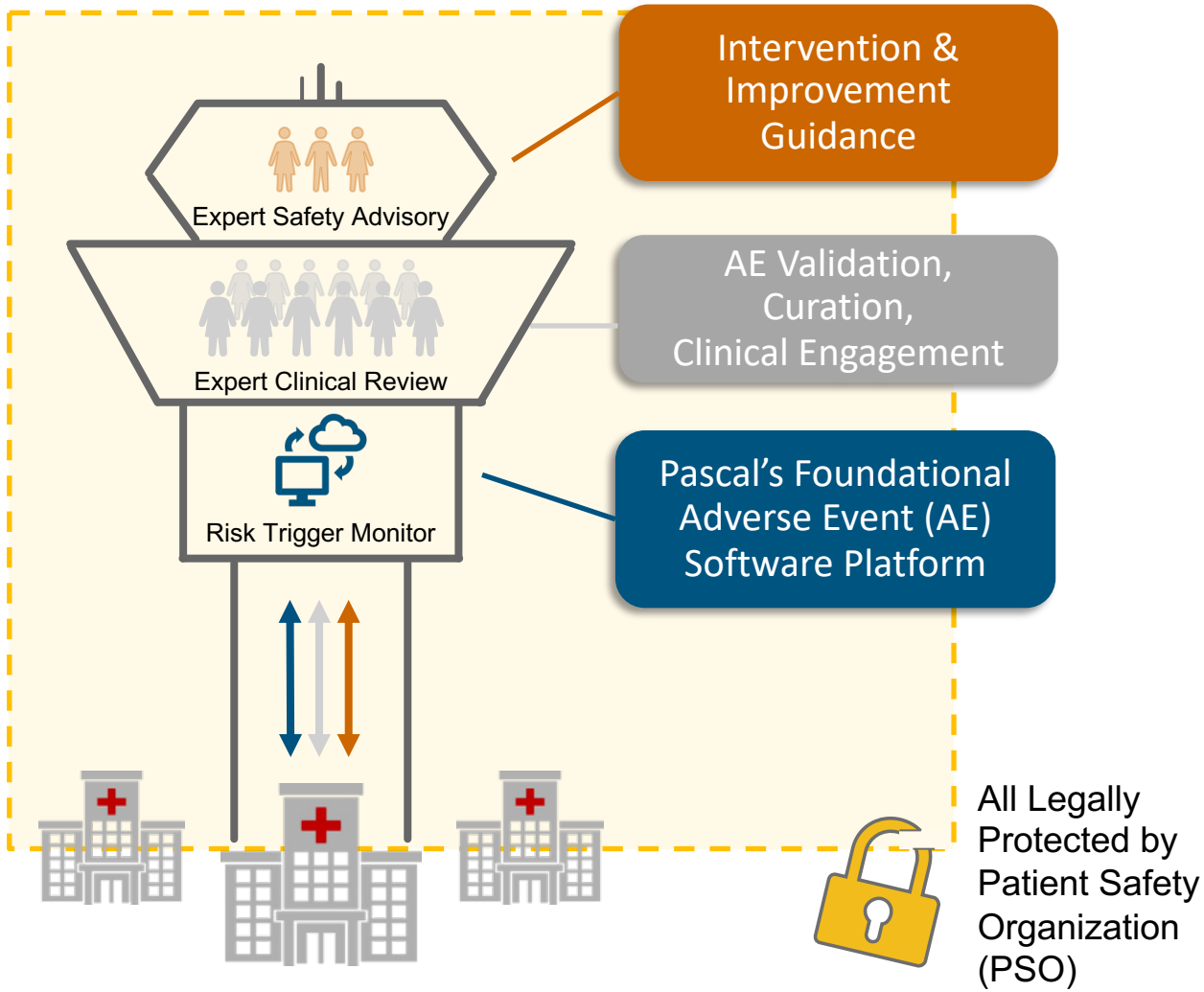
GM

Disney

# Pascal software and services

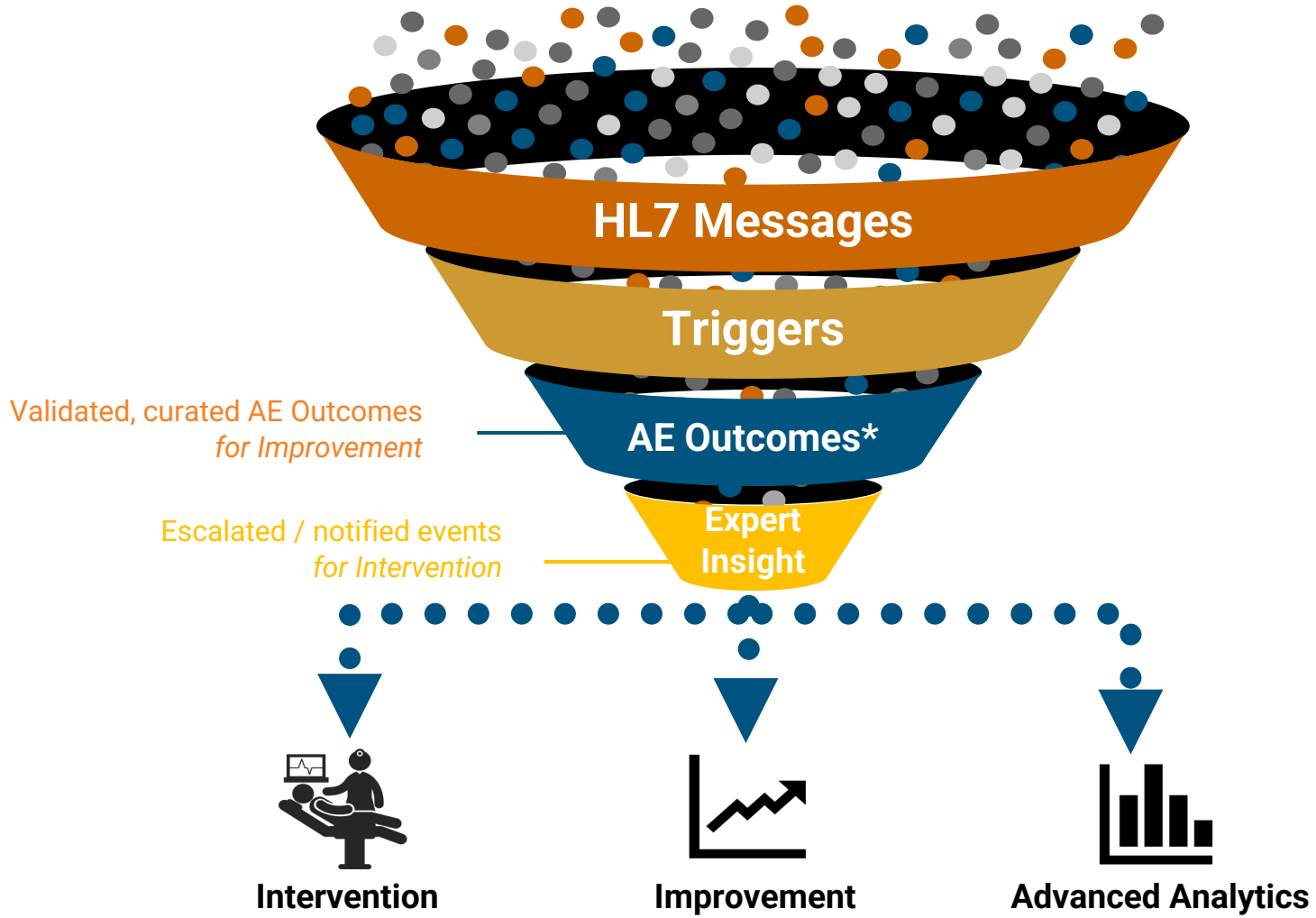
# 24/7 Virtual Patient Safety (VPS) solution

- Measure and manage all harm, all the time for all patients




*Based on SLA

# Pascal VPS transforms data into outcomes and expert insight

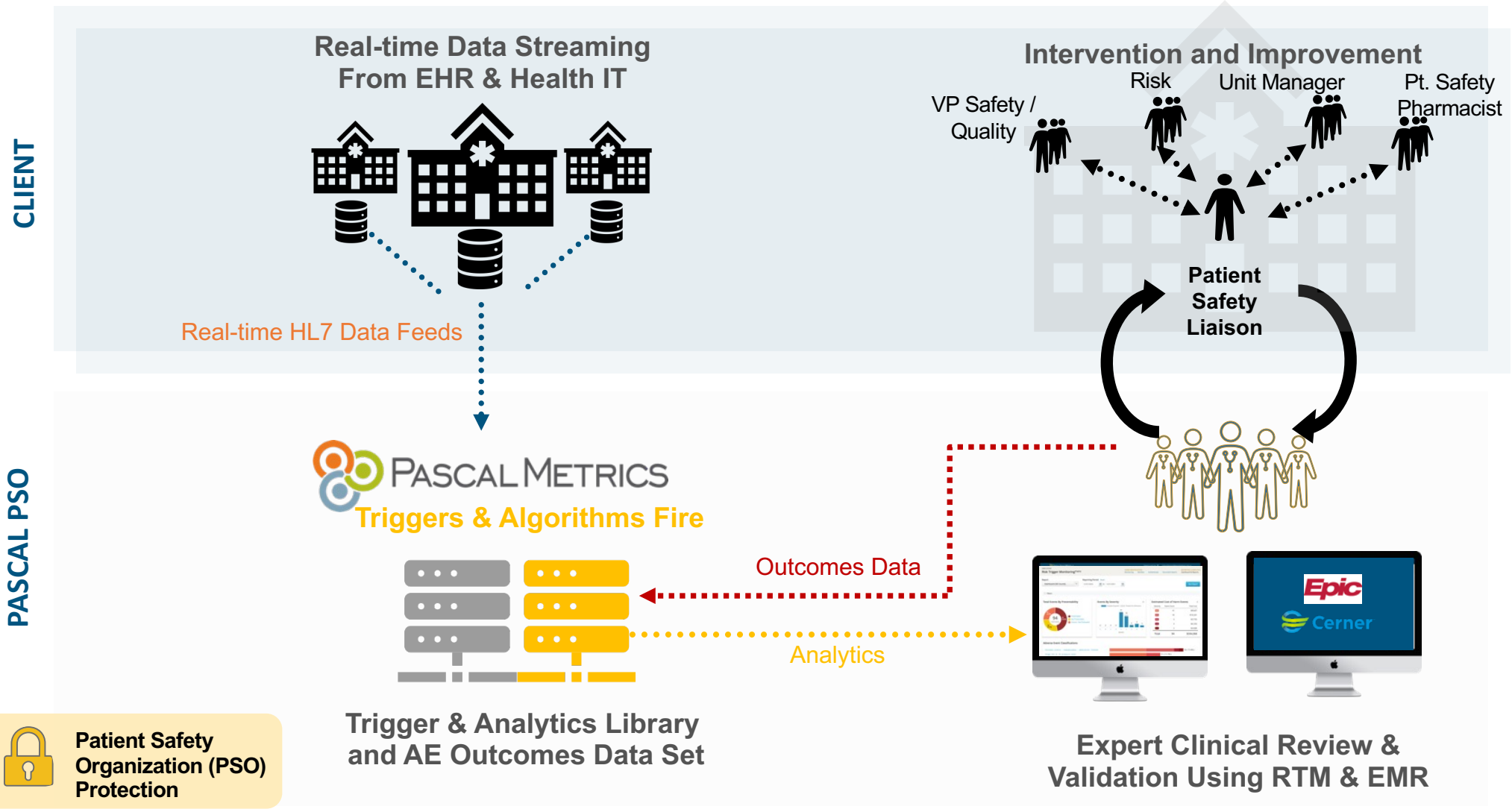


# Clinically relevant adverse event analytics

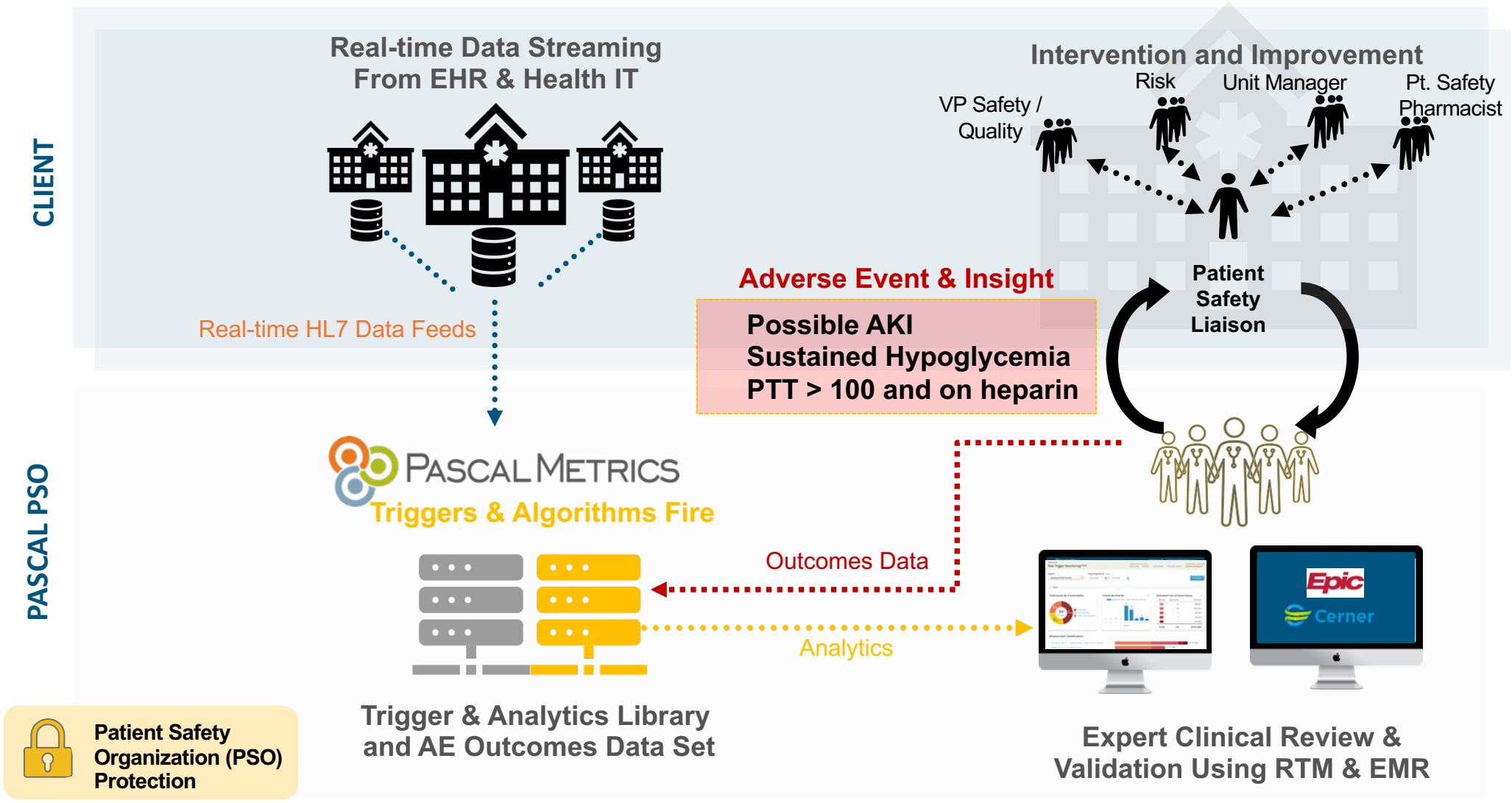
AE outcomes and expert insight “lens” providing visibility of and “teeing up” for intervention and improvement:

- ✓ Events
- ✓ Trends
- ✓ Patterns
- ✓ Common causes/factors
- ✓ Vulnerabilities and variation

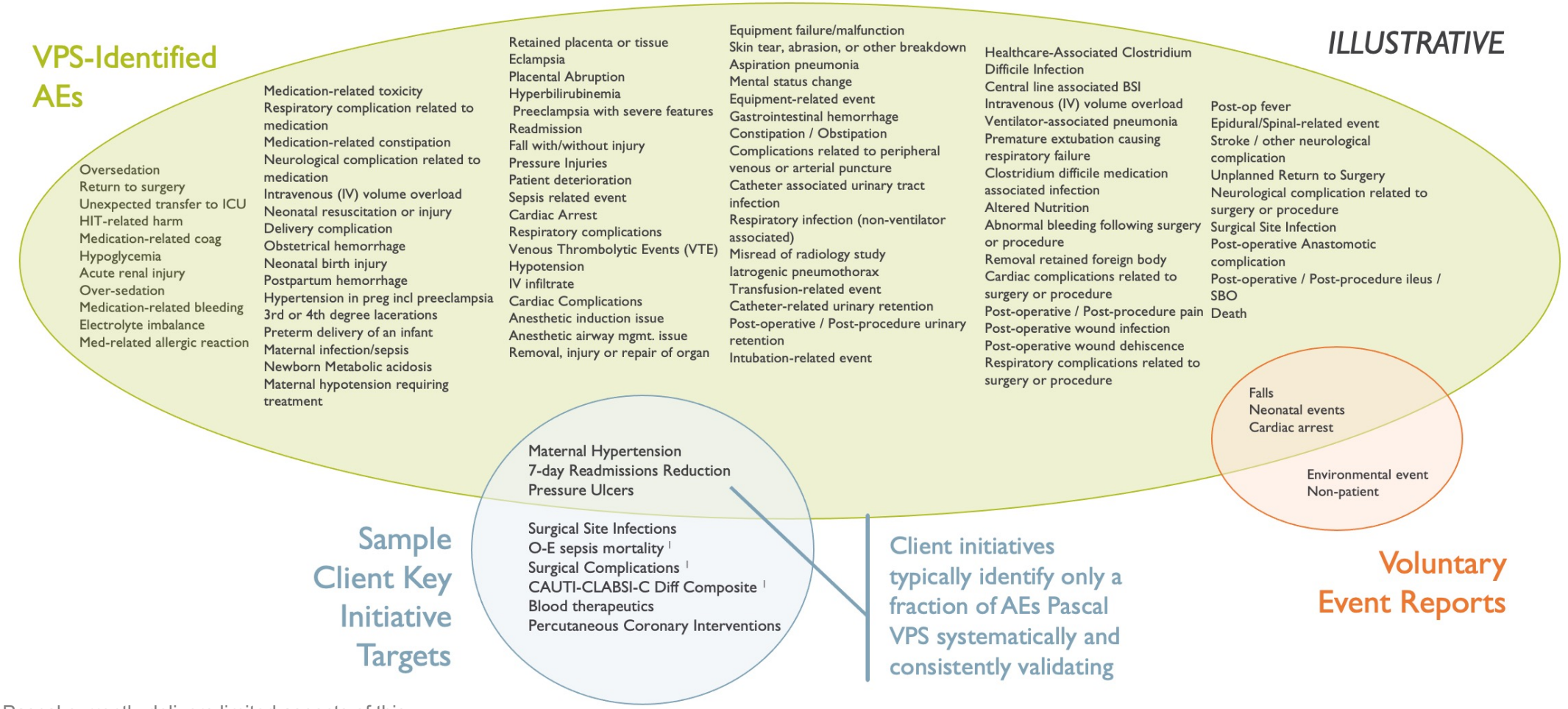
# Pascal Virtual Patient Safety (VPS) workflow



# VPS workflow: Patient example

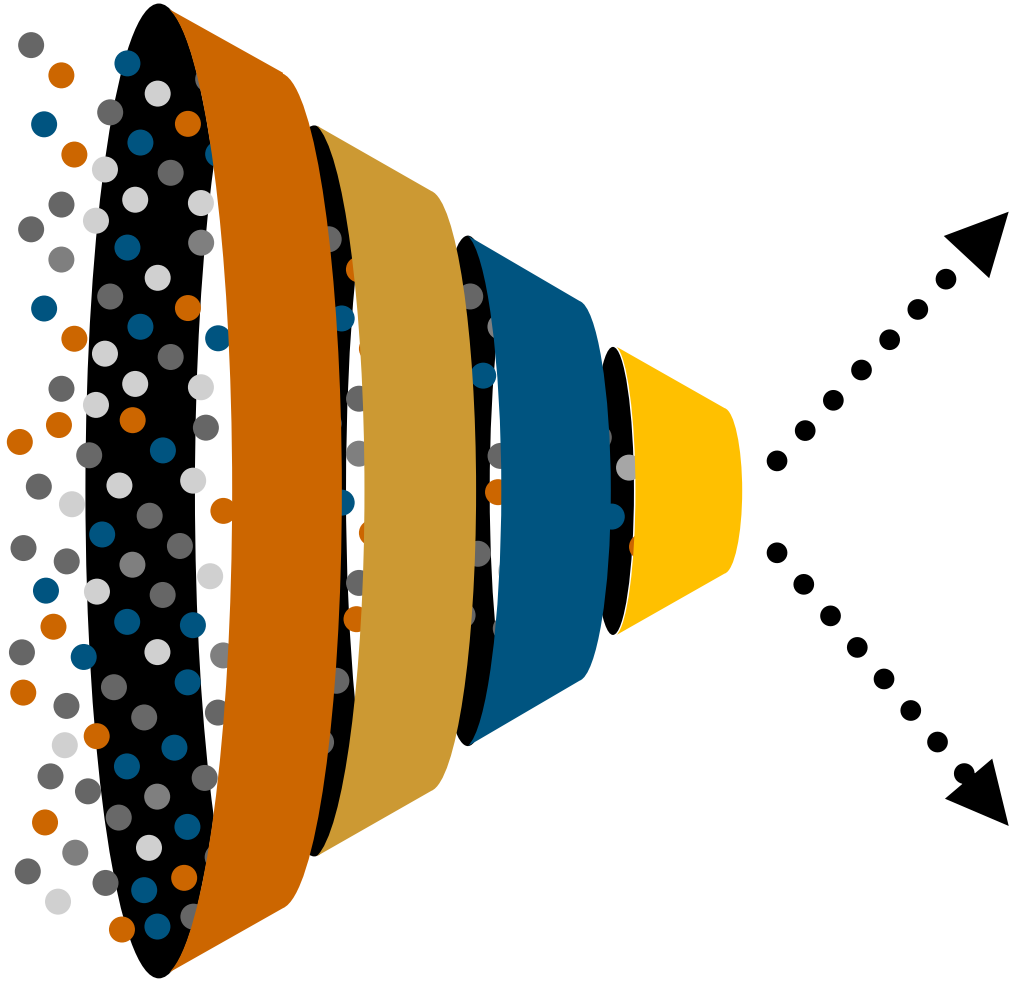


# The AE universe – Pascal VPS identifies more AE types, higher volume, faster and with 7-day <24-hour actionability




1. Pascal currently delivers limited aspects of this.

# Used to support analytics and action enterprise-wide



- Patient safety
- Risk management
- Data science
- Quality improvement
- Peer review
- Finance

# Virtual Patient Safety applied to risk

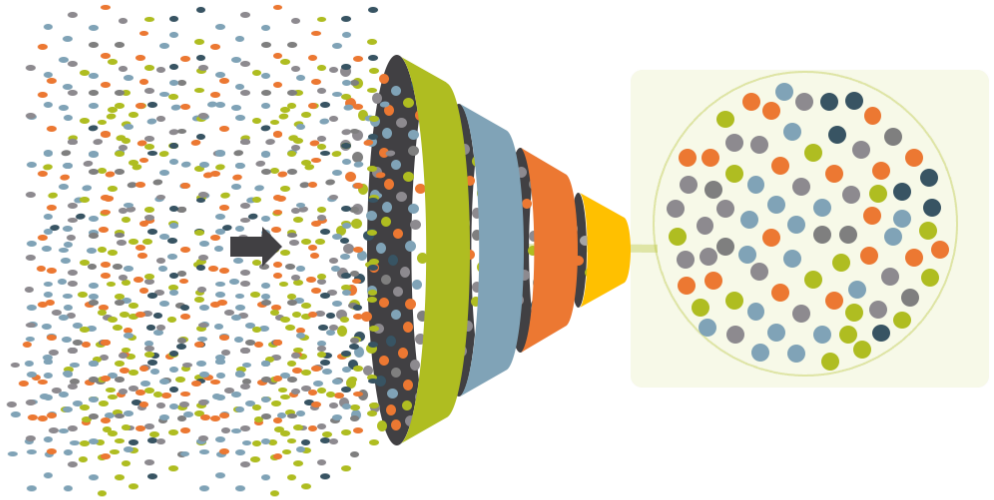
## IMPROVING PATIENT'S RISK EXPERIENCE WHILE STILL IN THE HOSPITAL

*Source of Data*

**Pascal's Approach**

*Client Average Time to Identify Potentially Compensable Event*

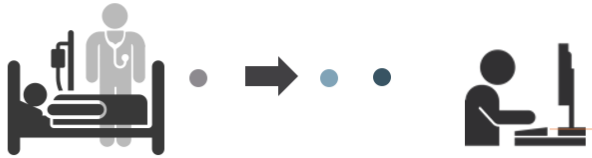
Real-time Health IT



**36 Hours**

Reporting

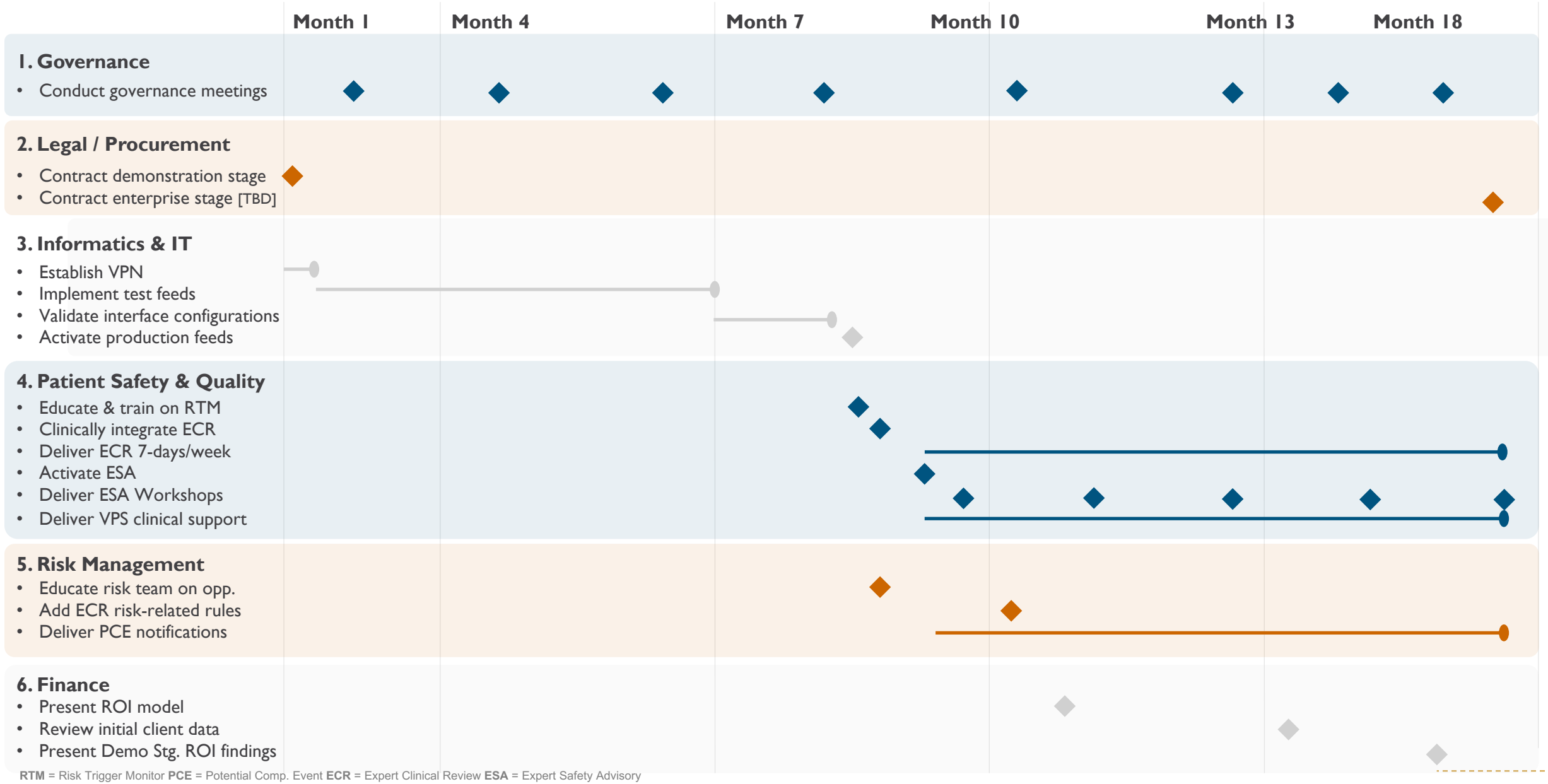
**Traditional Approach**



**50 Days**

# Pilot program implementation

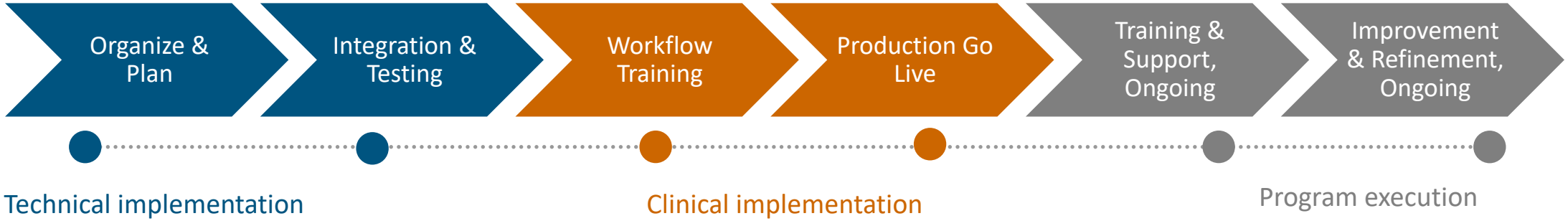
# Pilot implementation overview



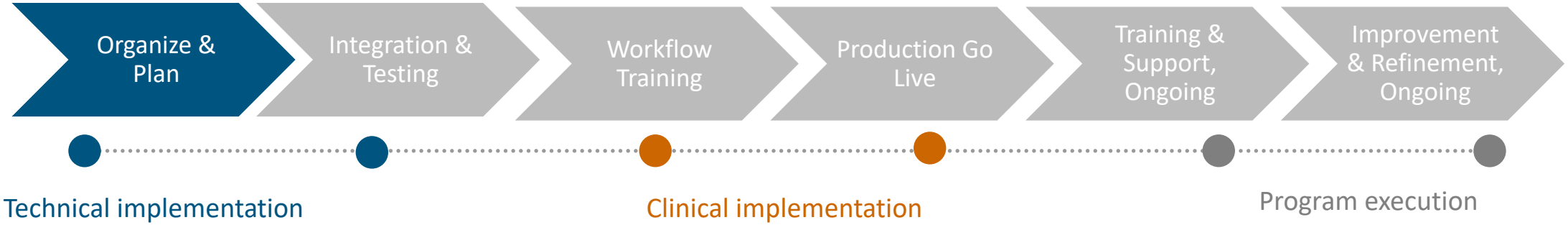

**RTM** = Risk Trigger Monitor **PCE** = Potential Comp. Event **ECR** = Expert Clinical Review **ESA** = Expert Safety Advisory

# Pilot implementation overview

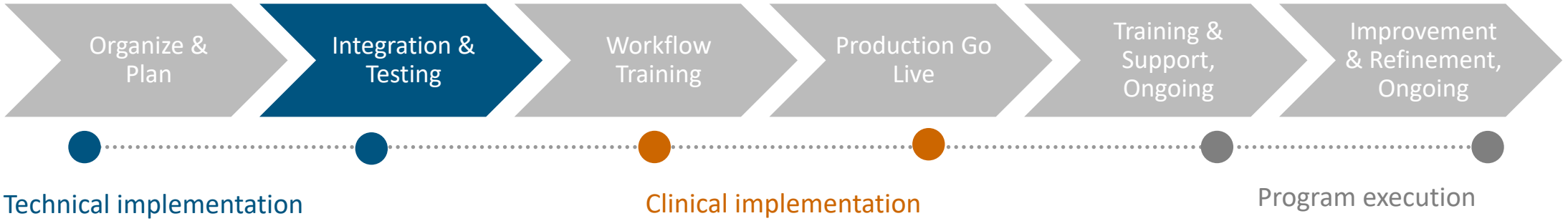
## STREAMS 3 AND 4



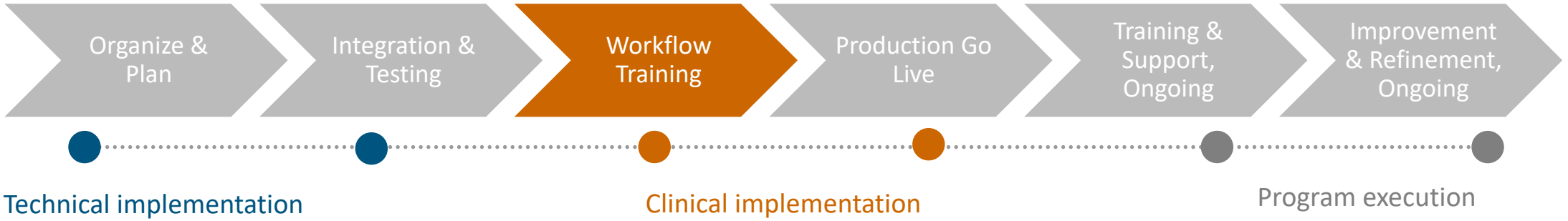

# Phase 1: Organize and plan



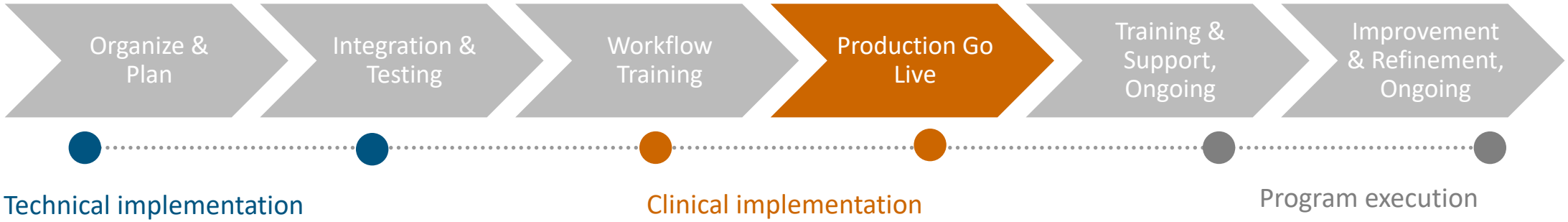
# Phase 2: Integration and testing



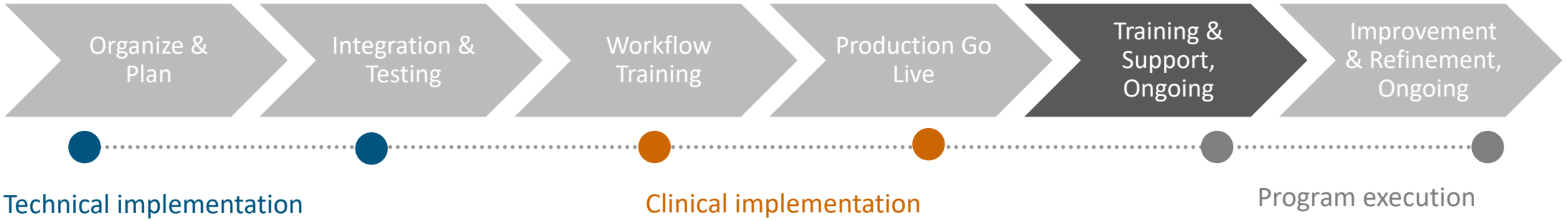
# Phase 3: Workflow training



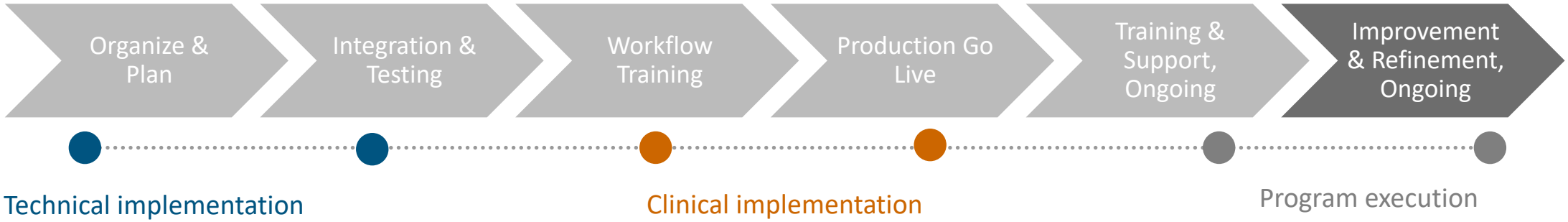
# Phase 4: Production go-live



# Phase 5: Training and support



# Phase 6: Improvement and refinement



# Closing considerations

1. Know what you don’t know
2. Use new tech-enabled method to build measurable value on culture work
3. Generate reliable, timely, actionable data for HRO, risk & med-mal, rev cycle, and functions & initiatives
4. Enable consistent, comprehensive data-driven decision-making across enterprise related to adverse events
5. Facilitate effective governance & management in prioritizing of goals and resources with existing resources

# Data sharing and evaluation

# Data sharing and confidentiality

- Pascal Metrics' federal PSO protections
- Betsy Lehman Center's enabling statute
- Embedded in data use agreements
  - MOU between hospital and Betsy Lehman Center
  - BAA between hospital and Pascal Metrics
  - Contract between Betsy Lehman Center and Pascal Metrics

# Evaluation and publication

- Independent evaluation
  - Ease of implementation
  - Changes in safety events over time
  - Impact on safety culture, operational burden, workforce well-being
  - Cost
    - ROI to individual hospitals
    - Impact on state health care spending
- Publication of findings
  - Deidentified data

# Thank you!

## Contact us

**Email**: Charles.Carter@BetsyLehmanCenterMA.gov

**Website**: BetsyLehmanCenterMA.gov/Pilot

# Appendices

# Health system/hospital team resourcing

| Resource | Typical role |
|---|---|
| **Clinical sponsor** | Clinical leader responsible for quality/patient safety for each hospital |
| **Executive sponsor** | Executive leader responsible for quality/patient safety-related performance/cost |

# Hospital team resourcing

| Resource | Typical Role |
| --- | --- |
| **Patient Safety Liaison** | • Patient Safety Officer/Risk manager<br>• Quality manager<br>• Manager who oversees root cause analysis<br>• Person who integrates voluntary reporting, peer review events as well as mandatory reporting |

# Hospital team resourcing

| Resource | Typical role |
|---|---|
| **Clinical leads** | • Executive leadership (CMO, CNEO)<br>• Quality analysts<br>• Peer review<br>• Clinical pharmacy specialist<br>• Unit manager/director(s)<br>• Charge nurse or nurse shift managers<br>• Clinical nurse specialist<br>• Clinical lab scientist<br>• Care coordination<br>• Clinical educators<br>• Interventional radiologist<br>• Subject matter experts (such as wound care specialist, perinatal specialist, infection preventionist, coagulation team) |

# Learning collaborative

- Confidential monthly meetings to collaboratively discuss experiences, challenges, and successes
- Expectation of regular participation by a senior hospital representative and quality/safety leader