Root Cause Analysis: The Journey From Individual Blame to System Fixes

Cincinnati Children's RCA Journey

Kristen L. Webster, PhD
Human Factors Consultant, Patient Safety
Cincinnati Children's
3333 Burnet Avenue, Cincinnati, OH 45229
Kristen.Webster@cchmc.org

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Cincinnati Children's at a Glance

- 678 registered beds (includes behavioral health)
- 33,017 admissions
- 179,857 (ED &Urgent Care Visits)
- 6,436 annual inpatient and 28,566 annual outpatient surgeries
- Over 1.3 million patient encounters
- 15,750 employees
- Research institution

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Asked for Help!

- Consulted Human Performance Improvement, LLC (HPI)

- Standardized the definition of Serious Safety Event (SSE)
- Performed retrospective event reviews to access a baseline
- Implemented the 3-Meeting Model
- Completed training – Teaching a new way!

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Our Journey Begins

Began our improvement journey over a decade ago…

Unstructured RCA process

Controlled by Risk Management/Legal

No central management or execution process

Results: Blaming culture and repeat events…

Strategic goal to be the safest hospital and eliminate serious harm!

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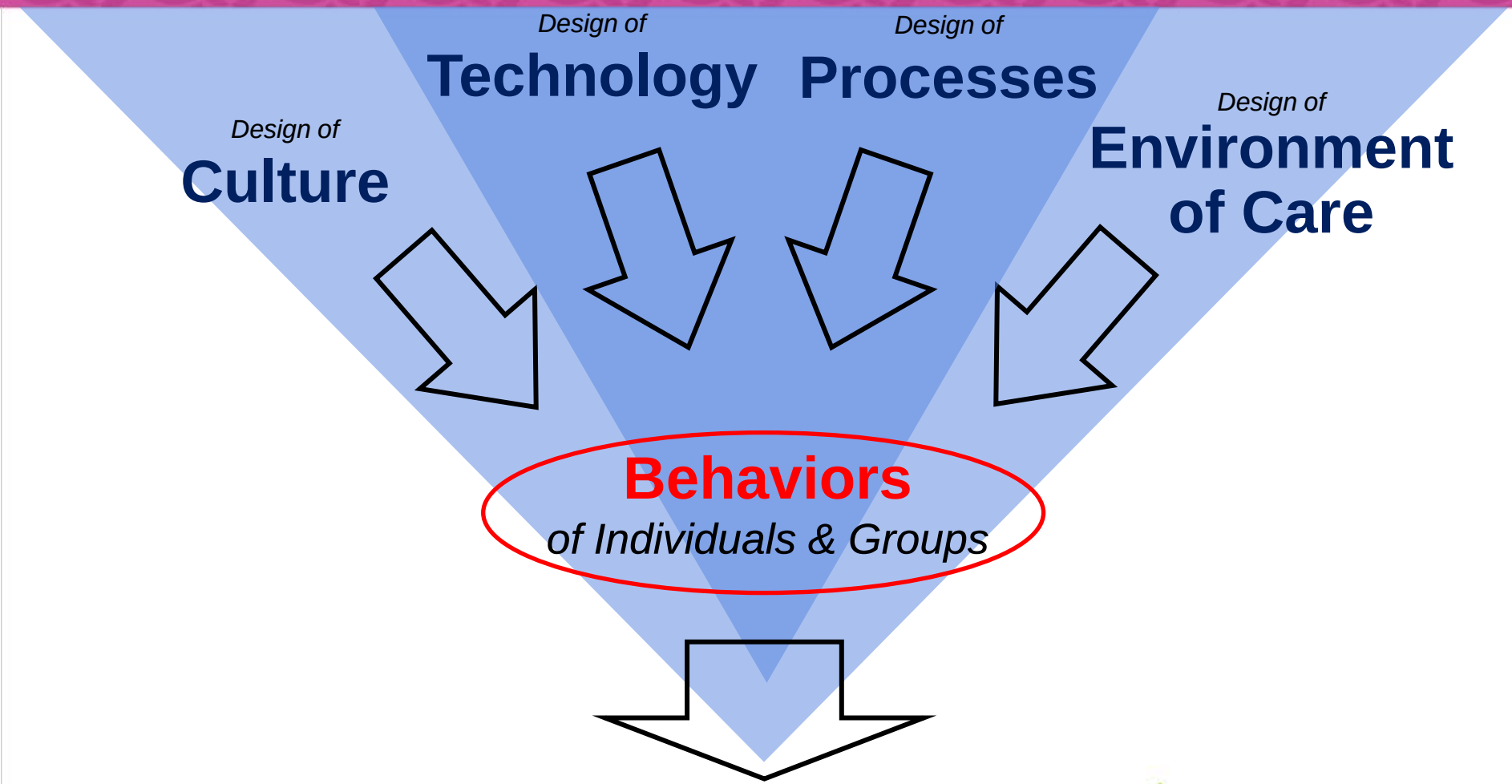
High Reliability Organization

Optimizing Outcomes…



Adapted from R. Cook and D. Woods,
Operating at the Sharp End:
The Complexity of Human Error (1994)

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Key Changes

SSE Panel

- Members include representatives from Legal, Chief of Staff Office, and Safety Officer
- A consistent group that evaluates cases to determine deviation in GAPS, and assesses the level of harm and assigns a score to the event
- Use consistent, structured approach
- Most effective with good “fact finding”

Strong support from senior leaders

- Executive sponsors for each RCA – provides “ownership” of RCA
- Physician/Nurse Team Leads

Key: Creating a strong sense of internal trust

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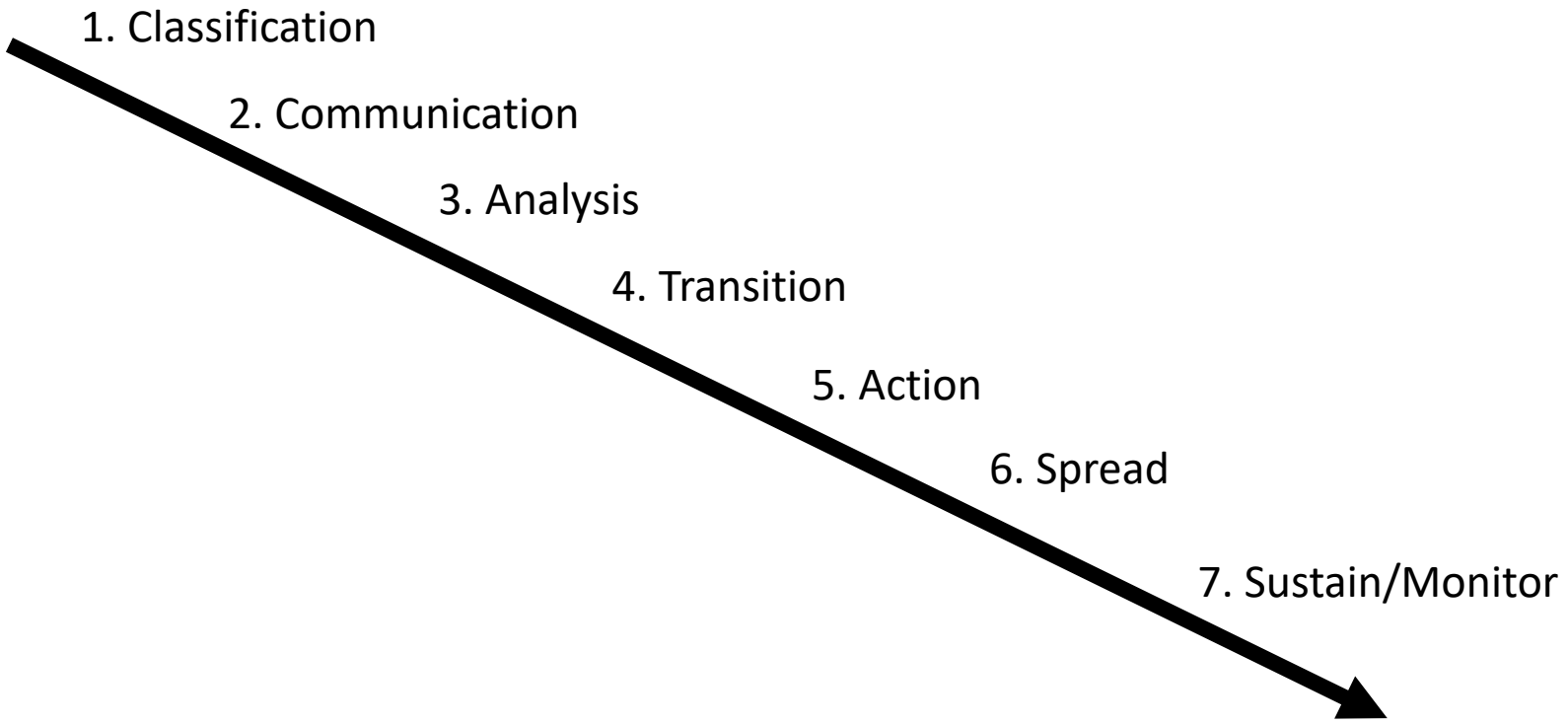
Cincinnati Children's RCA Phases



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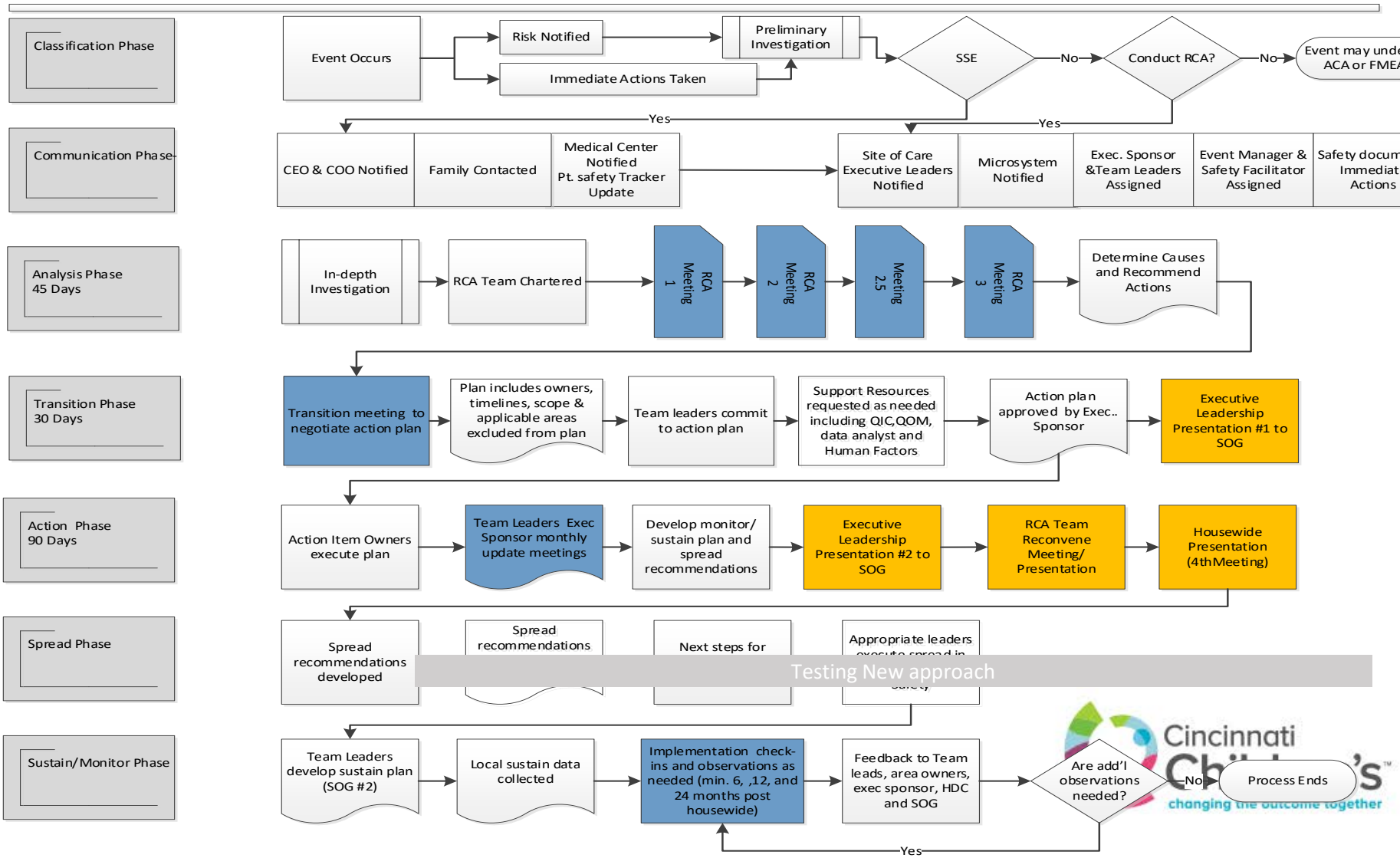
Cincinnati Children's RCA Process



An event is report

Events are reported through:

1. Safety Reporting System
2. 803-SAFE call service
3. Huddle with staff
4. Conversations with managers, PSO, leaders, risk manager
5. Through the Electronic Health Record (EHR)

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Investigation begins

Interviews with staff

Review of documents and EHR

Classification

Phase 1

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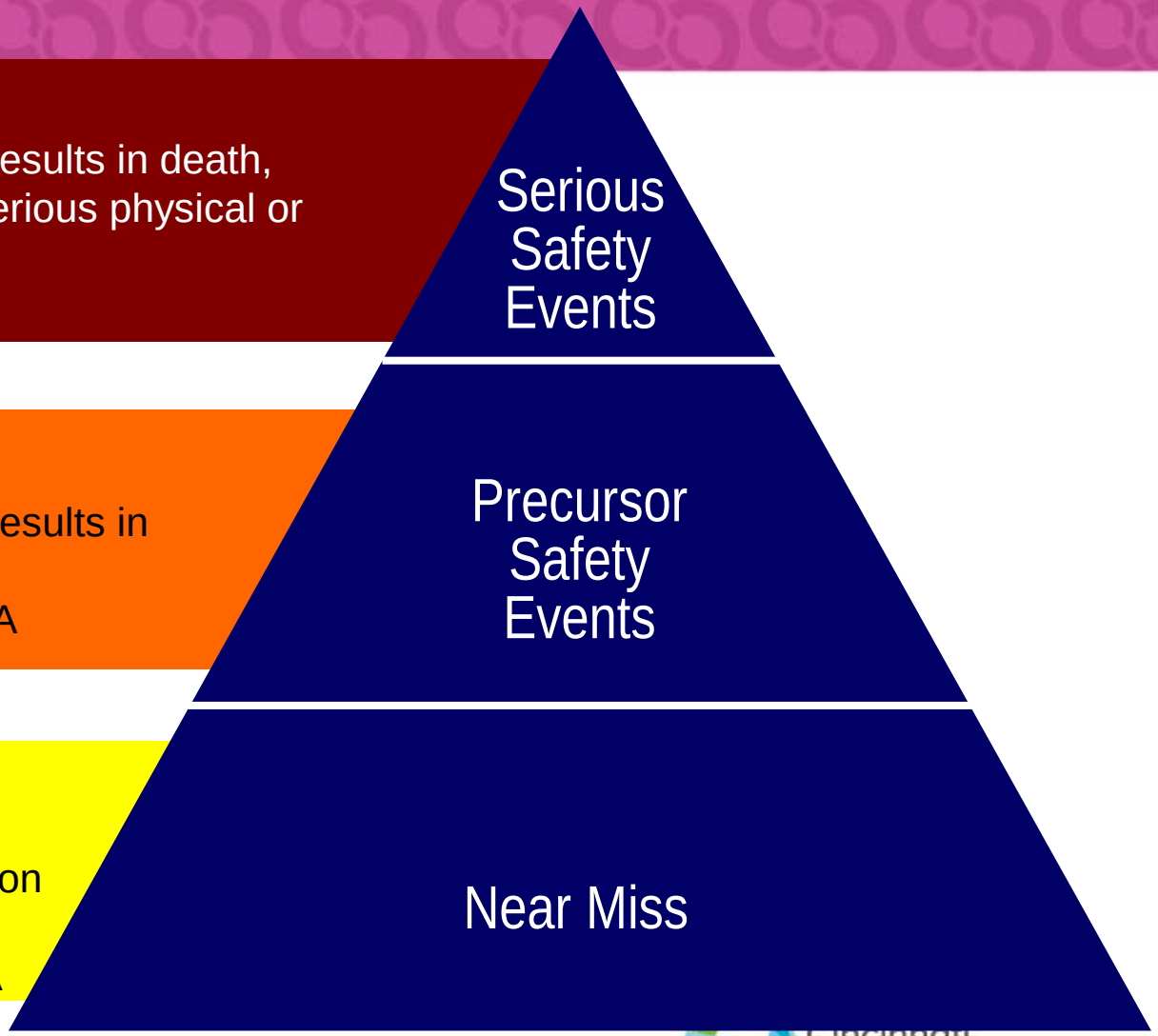
Deviation from standard of practice that…

Serious Safety Event
Event that reaches the patient and results in death, life-threatening consequences, or serious physical or psychological injury
Cause Analysis Level: RCA

Precursor Safety Event
Event that reaches the patient and results in minimal or temporary harm
Cause Analysis Level: ACA or RCA

Near Miss
Event that almost happened - the error was caught by one last detection Barrier or is caught by luck
Cause Analysis Level: Trend, ACA



SEC Safety Event Classificatio SM

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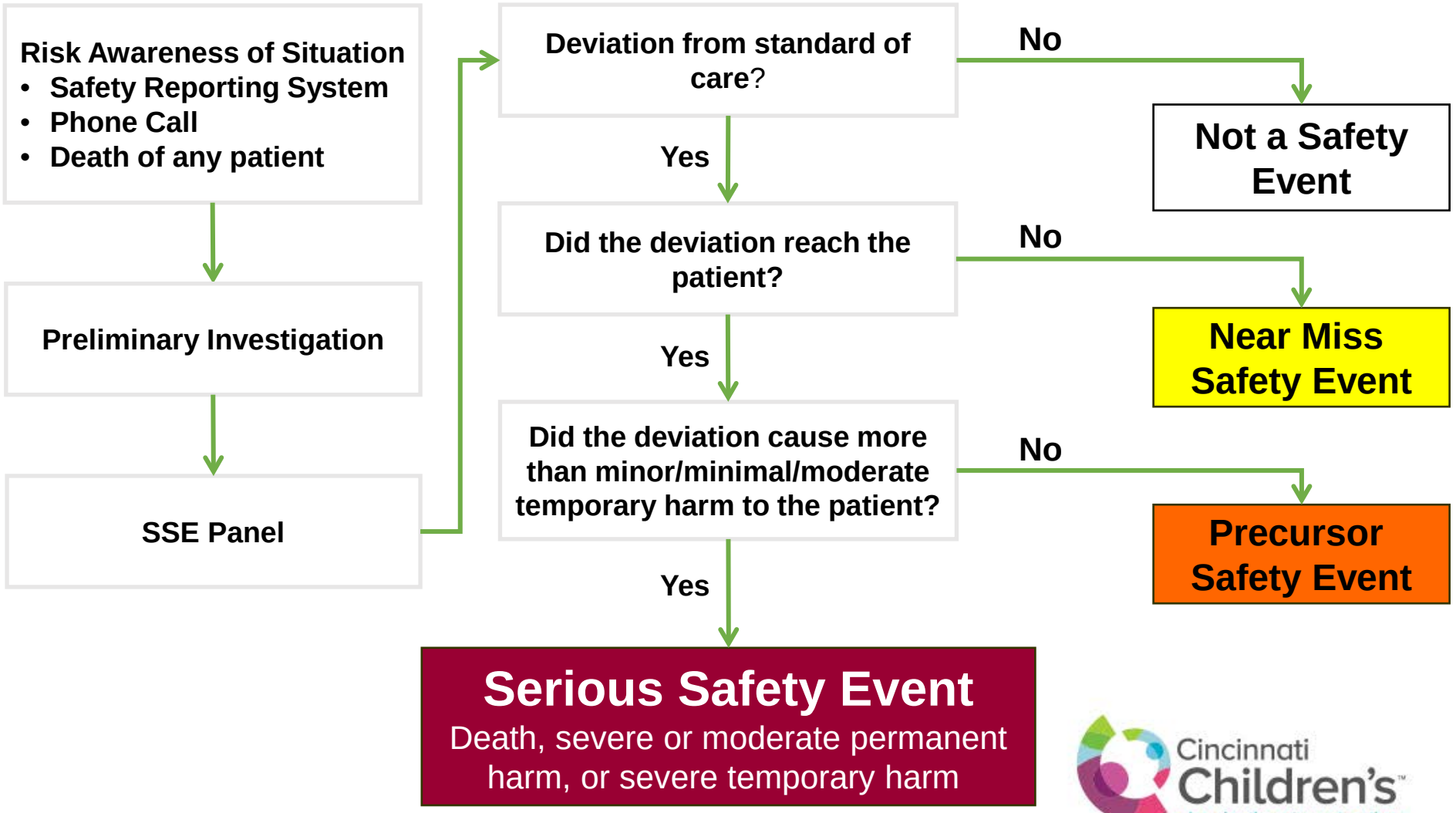
Safety Event Classification (SEC) SM Flowchart & Guide



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More consideration

- Is it a Sentinel event which requires Joint Commission systematic follow through
- Obligated to do an RCA
- Not an SSE/Sentinel Event but we'll elevate to an RCA

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Joint Commission Never Events

Never Events: include errors such as surgery performed on the wrong body part or the wrong patient, leaving a foreign object inside a patient after surgery, or discharging an infant to the wrong person.

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Joint Commission Sentinel Events

- Defined in 10-144 CMR Ch 114 Rules Governing the reporting of sentinel events

- Top Ten list:

1. Unintended retention of a foreign object events
2. Fall-related events
3. Suicide events
4. Wrong patient, wrong site, wrong procedure events
5. Delay in treatment events
6. Criminal events (assault, rape, homicide)
7. Operation/post-operation complication events
8. Perinatal events
9. Medication error events
10. Fire-related events

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MCP-G101: Reporting Potential Safety Events: Patients, Visitors, Students

Any unusual incident concerning patients, visitors or students which is not consistent with the routine operations of CCHMC or the routine care of a particular patient must be documented and reported.

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MCP-G101: Reporting Potential Safety Events:

An **UNUSUAL INCIDENT** is *any event that is not expected to happen.* Examples:

- Accidents (e.g. fall, cut)
- Medication errors
- Equipment/supply issue
- Specimen related events (e.g. mislabeled, QNS)
- Delayed/mis-diagnosis
- Environmental issues
- Any event that is uncommon, abnormal or inconsistent with routine.

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Communication

Phase 2

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Connection and Communication

- Notifications: CEO, COO, Family
- Patient Safety team/Tracker updated
- Leaders at site of care
- Microsystem
- Exec Sponsor and team leaders assigned
- Event manager and safety facilitator assigned
- Safety Documents immediate actions

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Disclosure and transparency

- Deidentified
- Writing is scripted by legal with PSO
- Goes with the family apology

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Analysis

Phase 2

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Fact Finding and Investigation

Background &
Chain of events

Subject Matter Experts

Verified and Validated

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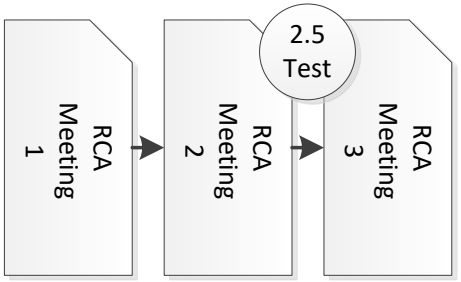
RCA Meetings



- Meeting 1 - Review facts and identify individual failures (Legal) – what happened.
- Meeting 2 - Analyze the "Why" to obtain the root and contributing causes (Legal)
- Meeting 3- Brainstorm interventions (Safety)

- RCA meetings include:
  - Executive Leadership
  - Physician/Nurse Team Leads
  - Frontline representatives with similar roles as identified in event
  - Safety, Human Factors

- Transition meetings
  - Ensure we have the right capabilities/resources at Meeting 3
  - Increases effectiveness of action plan, accountability, owners, and resources

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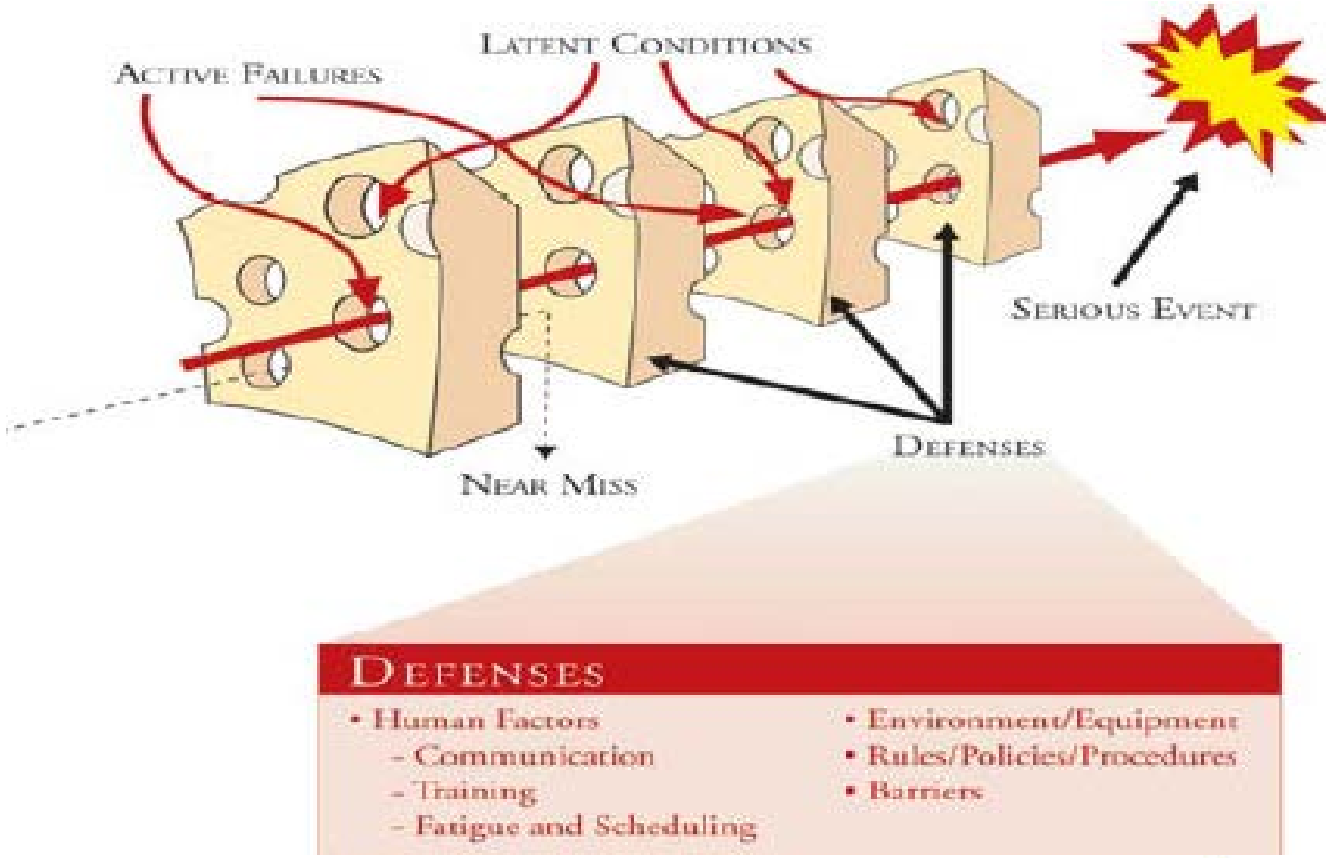
The Swiss Cheese Model



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Adapted from Reason, J, "Human Error: models and management," BMJ 2000: 320: 768-770

Human Factors

1. **Unsafe acts:** This section is divided into errors and violations. Errors refer to when the person was training incorrectly or didn't know the process. Violations are when a person knows what the process is, but decided to perform it differently for various reasons.
2. **Precondition for unsafe acts:** This layer looks at why these unsafe acts were performed, looking at individual factors, including the person's mental state at the time, situational factors, tools and technology utilized during the event, and team factors which look at communication and leadership within the team.
3. **Supervisory facts:** In this layer, the people who are in charge of the preconditions and their leadership are investigated. This tends to be relevant when there is an un-engaged supervisor who is not addressing hazards and violations.
4. **Organizational influences**: This layer connects back to the organization's culture, processes and resource management.

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Transition

Phase 4

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- Facilitated by Safety
- Executive Sponsor and legal
- All the ideas and causes

- The brainstorm ideas are converted to action
- Prioritization of implementation

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Action

Phase 5

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Implementation Team Build

- Executive Sponsors
- Team Leaders – built on support hierarchy
- Individuals closely involved in the process/system
  - How to include those in the incident?
    - Reports and follow up
- Human Factors expert

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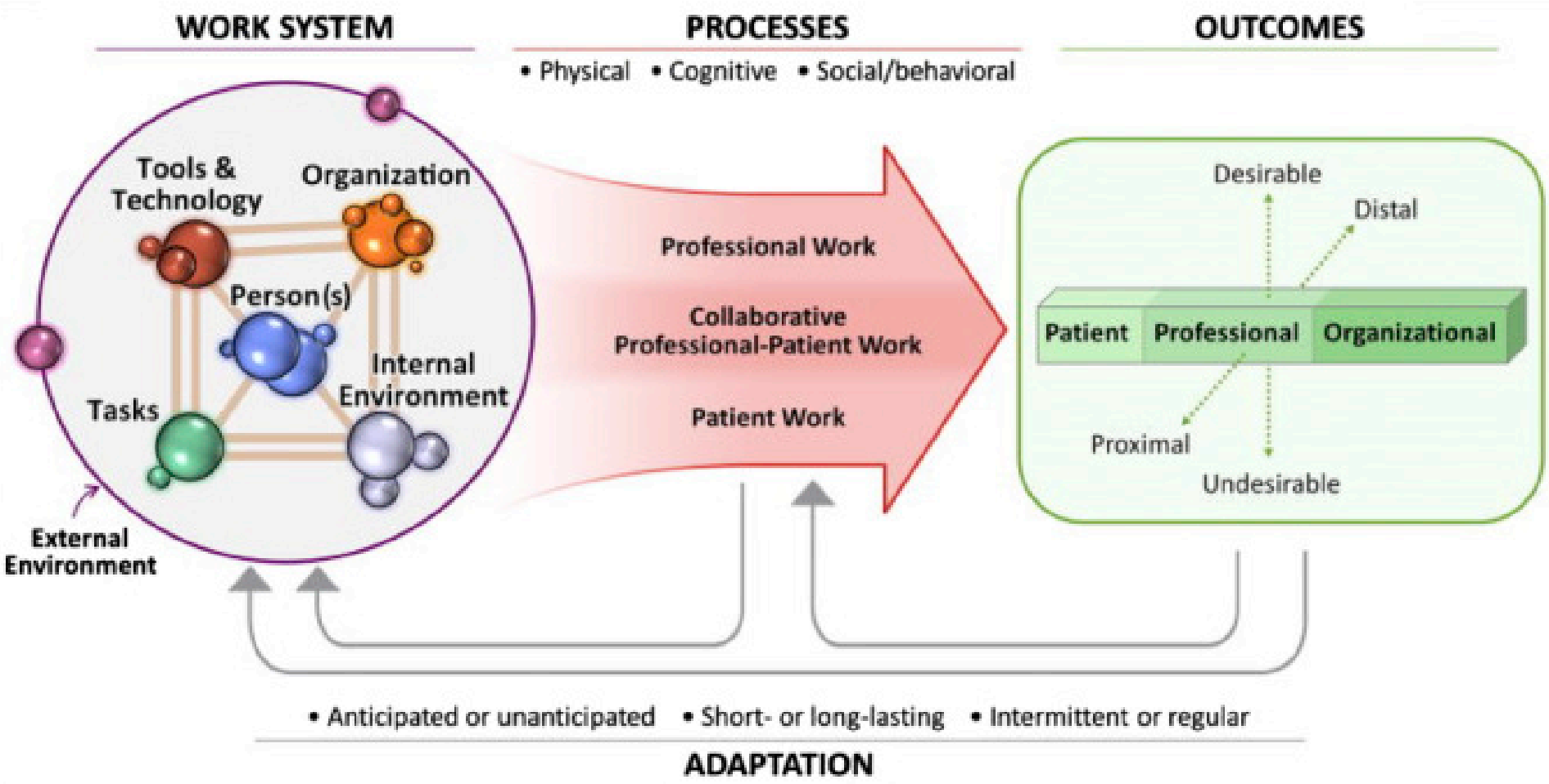
Avoiding unintended consequences



Holden RJ, Carayon P, Gurses AP, et al. SEIPS 2.0: a human factors framework for studying and improving the work of healthcare professionals and patients. *Ergonomics*. 2013;56(11):1669-1686

Levels of reliability

Level of reliability	Failure Rate	How
3	<5 per 1000 opportunities 99%	Make the system visible Clear and unambiguous communication Mindfulness: HRO Principles
2	<5 per 100 opportunities 95%	Redundancy, Decision aids and reminders, differentiation, real time identification of failures, standards work for tasks, scheduling key tasks, taking advantage of existing habits and patterns
1	1 or 2 per 10 opportunities 80-90%	Awareness and training, Feedback mechanisms regarding compliance Memory aids, checklists Basic standardization

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Action and Accountability

- Present at Safety Oversight Group (SOG) – chaired by CEO and members of Executive Leadership, Safety Leaders, and family representatives, safety leaders
  - Two presentations
    - Finalized action plan
  - and after work is complete

- 4th meeting – House wide presentation

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Spread

Phase 6

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Evaluation of other spaces

- Send evaluation forms for other spaces
- Conversations with with leaders and front-line staff

- Consideration for what makes that space unique
- Team to implement in that space

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Sustain/Monitor

Phase 7

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Verification

- Reconvene if needed
- Update data
- In person verification
  - Self
  - 3rd party observations
- Staff feedback and recommendations

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Lessons Learned

- Better action plans – with HRO interventions – reduced number of actions (15 vs 5)
- Sustain and Spread – onsite observations 6, 12, 24 months
- Leverage Human Factors capability in meetings and action teams
  - Develop reliable system-wide interventions
- Constantly challenging the status quo

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Things to be aware of

- Prioritization
- Linear thinking
- Not relying on data – not having data
- Political hijacking
- The problem of many hands
- Poorly designed and implemented risk controls

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Things to be aware of

- Bias
  - Approach biases/outcome bias
  - Easily achieved over strong improvements
  - Hindsight bias
  - Witness biases
  - Interviewer biases

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Safety Culture

Psychological Safety

- Has to be a priority
- Facilitate everyone speaking up
- Establish norms for how failure is handled
- Create space for new ideas
- Embrace productive conflict
    - Forming, storming, norming, etc.

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Continuous Improvement

Always striving for HRO principles

Always willing to learn from new things to improve

Staying current with literature and best practices

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Questions

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