



STRENGTHENING HEALTH CARE CYBER RESILIENCE

Through Large-Scale Simulation Exercises

Using cyber disruption to strengthen emergency management readiness

MEET THE SPEAKERS



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WHY THIS MATTERS

When Technology Fails, Care Must Continue



THE REAL SHIFT

Resilience is the ability to anticipate, withstand, and operate through disruption, not just recover from it.

OPERATIONAL CONTINUITY

Shift from recovery to operational continuity



FAILURE PLANNING

Design for failure, not just uptime



UNITED RESPONSE

Align IT and business resilience



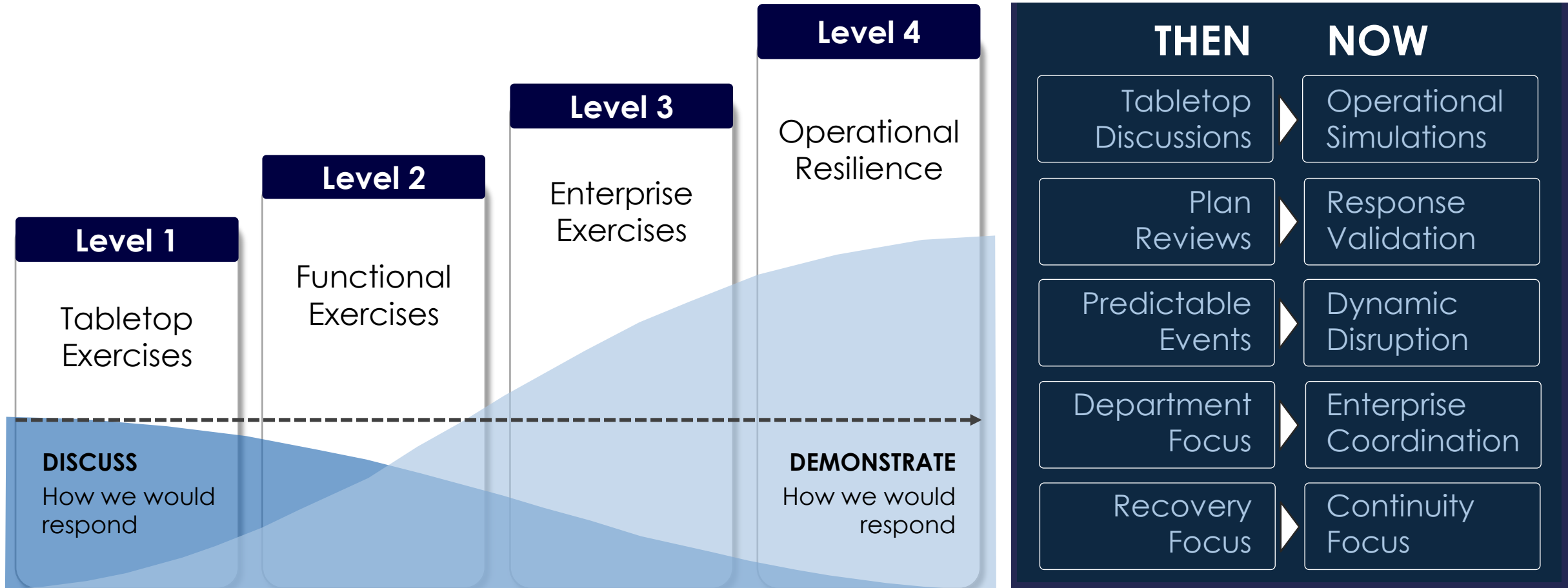
DECISION READINESS

Enable leadership decisions under pressure



EVOLVING EXERCISES

From Discussion to Operational Validation



WHY TRADITIONAL EXERCISES ARE NOT ENOUGH

Traditional exercises often simplify disruption. **Real incidents rarely do.**



PREDICTABLE

Traditional exercises often focus on single-threaded scenarios and planned outcomes.



COMPOUNDING

Real incidents create simultaneous operational, technical, and communication challenges.



DYNAMIC

Conditions change quickly, forcing teams to reassess priorities and make decisions with incomplete information.



EXERCISE DESIGN FRAMEWORK

Design Around **How the Organization Must Respond**



G

Governance

Clear command structure and decision authority

R

Roles

Defined responsibilities before activation

A

Assess

Situational awareness drives decisions

V

Visualize

Dependencies, escalation paths, and resource needs

E

Engage

Clinical, operations, IT, emergency management, communications, legal, and vendors

L

Learn

Debrief, improve, and repeat

PLANNING ALIGNMENT



One Exercise. **Three Planning Perspectives.**

Exercises succeed when response teams design together.



Regional Planning

Local operations and care delivery

- Facility impacts
- Clinical workflows
- Local response needs
- Continuity of care



Technology Planning

Disruption and recovery assumptions

- Cyber scenario
- System dependencies
- Recovery sequencing
- Technical constraints



Command Center Planning

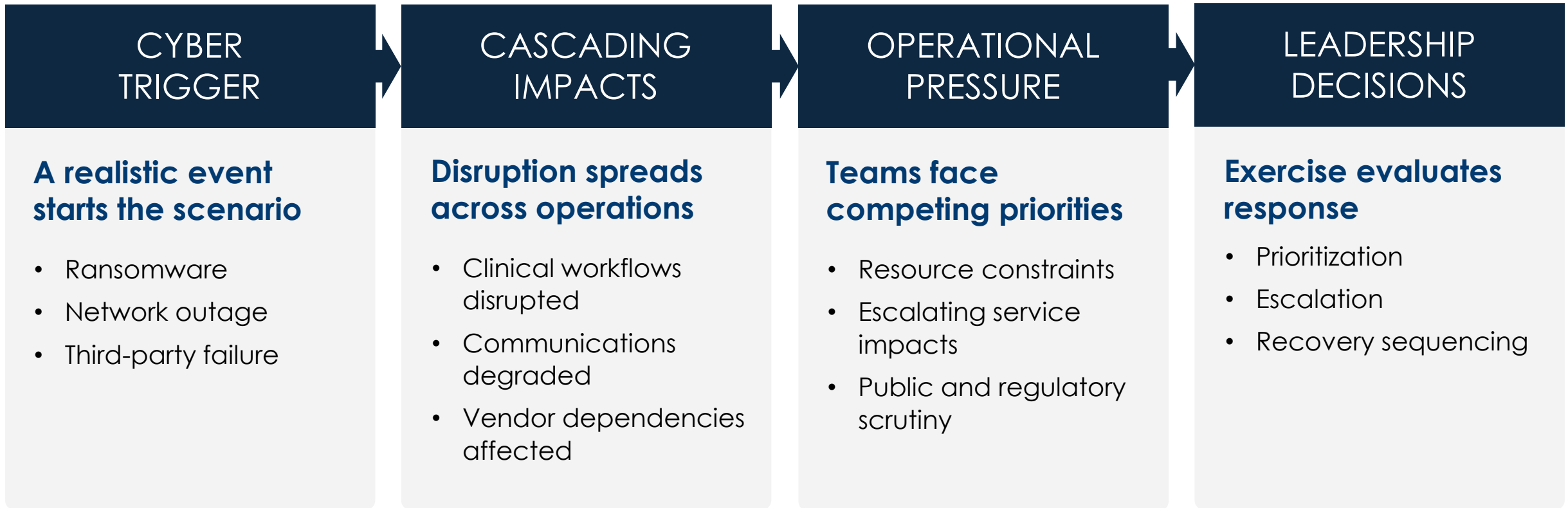
Enterprise coordination and decisions

- Escalation pathways
- Leadership visibility
- Communications
- Cross-functional alignment

Shared Foundation | Common Objectives. Unified Scenario. Coordinated Execution. Consistent Evaluation.

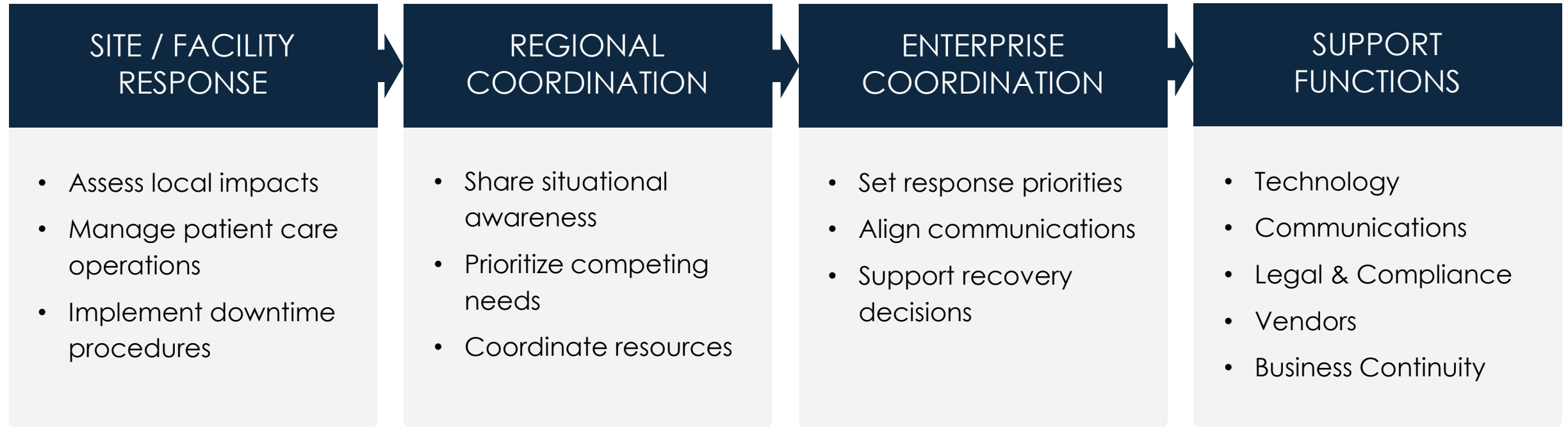
SCENARIO DESIGN

The best exercises create operational pressure, **not just technical disruption.**



COMMAND CENTER COORDINATION

Coordinated Decisions **at Scale**



One disruption. One coordinated response.

COMMAND CENTER FRAMEWORK

NATIONAL INCIDENT COMMANDERS

REGIONAL COMMAND CENTERS

NCAL

SCAL

HI

WA

CO

NW

GA

MAS

MHS

NATIONAL FUNCTIONAL COMMAND CENTERS

COMMAND
CENTER
OPERATIONS

IT

FINANCE

COMMS

HR

LEGAL

NATIONAL
HEALTH
PLAN

COMPLIANCE

PHARMACY

SUPPLY CHAIN

CLINICAL
QUALITY/
RISK

GOVT
RELATIONS

NURSING

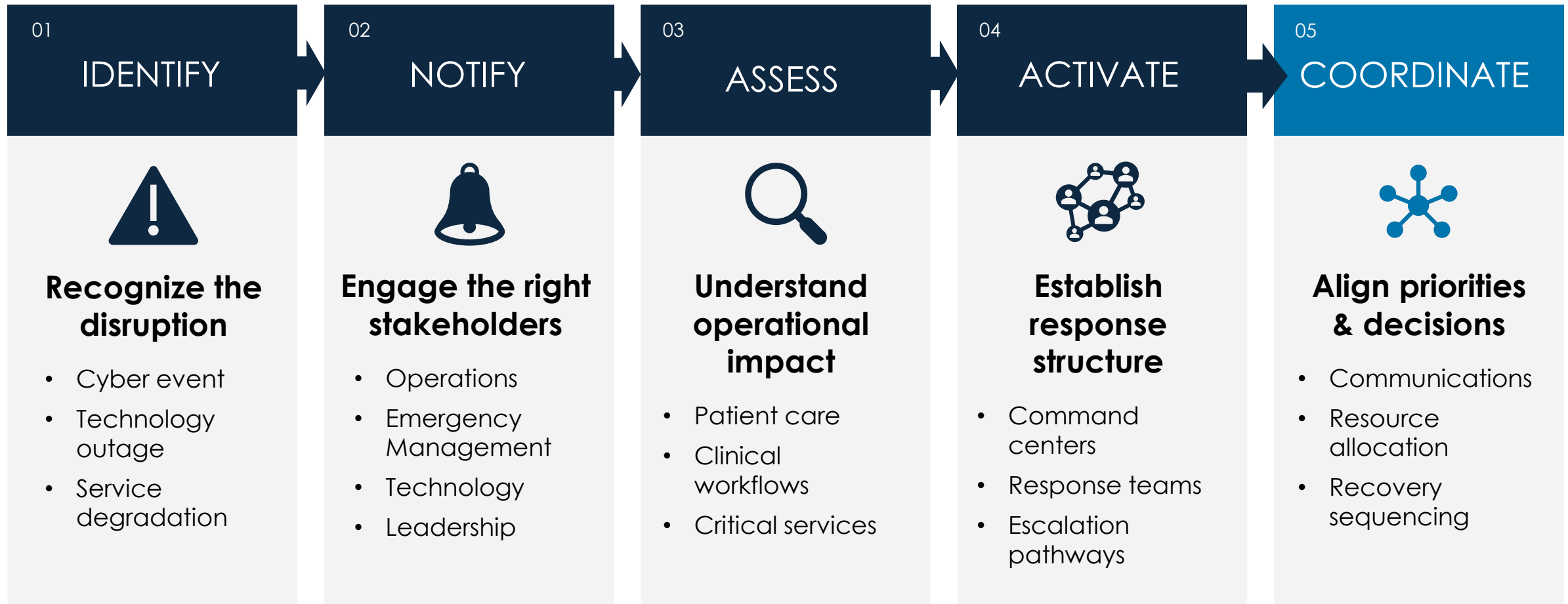
SHARED
SERVICES

INFECTIOUS
DISEASES

CONTINUUM

RESPONSE ACTIVATION

From Detection to Coordination



READINESS TOOLS

...

PLANS MUST WORK UNDER PRESSURE

DEPARTMENT CHECKLISTS

Support frontline
decision-making



EMERGENCY OPERATIONS PLANS

Guide coordinated
response actions



BUSINESS IMPACT ANALYSES

Identify critical
services and
dependencies



READINESS FRAMEWORK

*Tools validated through
large-scale exercises*

Readiness depends on usable
tools, **not plans on paper.**

DOWNTIME PROCEDURES



Enable operations
when systems are
unavailable

COMMAND CENTER PLANS



Define activation,
roles, and escalation

COMMUNICATION TEMPLATES



Support timely and
consistent messaging

EVALUATE THE PATIENT JOURNEY

The true impact of disruption is measured by what happens to the patient, **not just the technology.**



EVALUATION LENSES

NORMAL PROCESS

How the process is expected to work during normal operations

DOWNTIME PROCESS

How teams operate when normal systems or workflows are unavailable

RISK / GAP OBSERVED

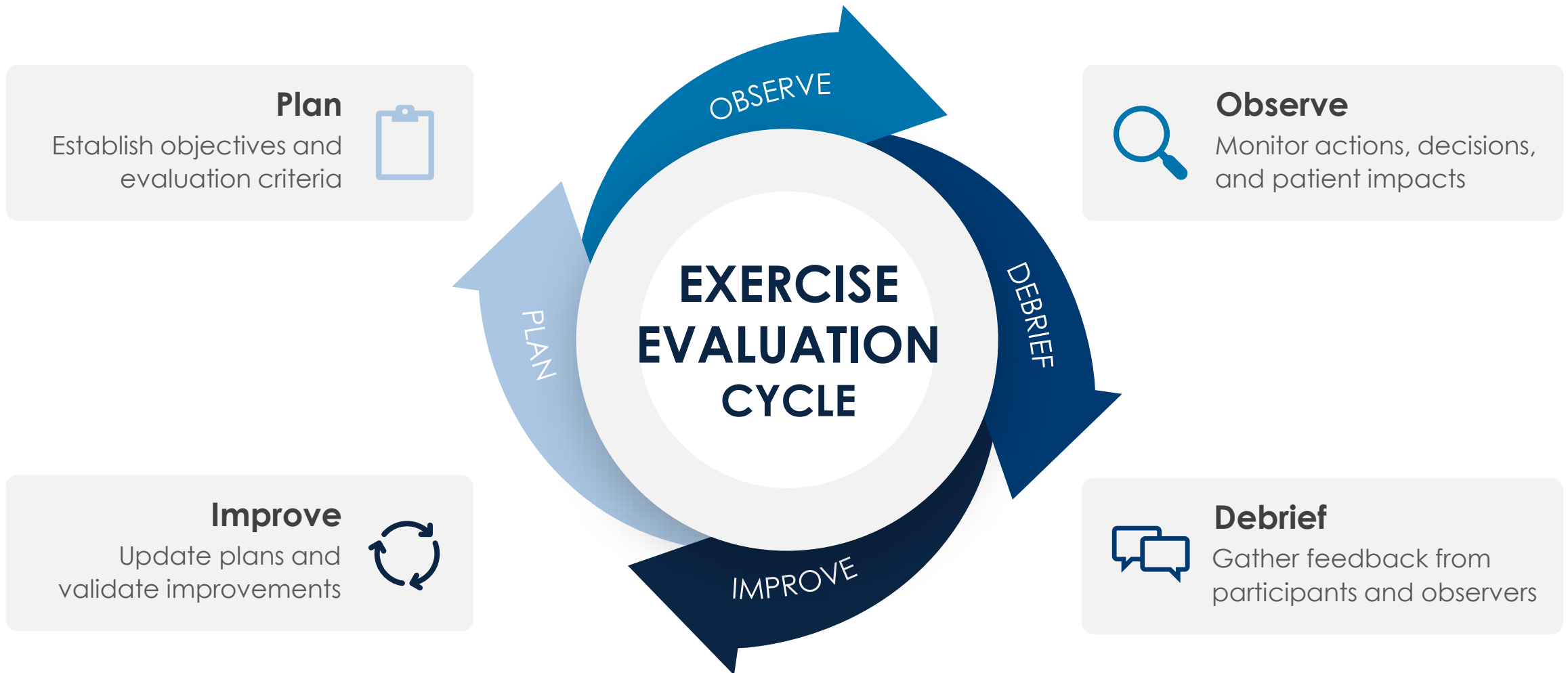
Where delays, handoff issues, safety concerns, or escalation needs appear

WHAT WE EVALUATE



EVALUATION PROCESS

Evaluation begins before the exercise and **continues after scenario ends.**



LESSONS LEARNED

EXERCISES EXPOSE WHAT PLANS DO NOT

Realistic exercises reveal strengths, gaps, and improvement opportunities that are difficult to identify on paper.

ROLE CLARITY

Know who does what

- Responsibilities before activation
- Clear ownership under pressure

COMMUNICATION

Message early and clearly

- Timely internal updates
- Consistent external messages

DECISION SPEED

Move with purpose

- Prioritize critical impacts
- Avoid waiting for perfect information

COORDINATION

Operate as one team

- Align clinical and IT response
- Connect local and enterprise decisions

REPETITION

Build muscle memory

- Practice improves confidence
- Repeat exercises expose gaps

The most valuable lessons are often discovered during the exercise, **not in the plan.**

WHAT THIS MEANS FOR EMERGENCY MANAGERS



01 CONTINUITY FIRST

- Plan for disruption before technology fails
- Sustain critical care and business operations

02 CONNECTED RESPONSE

- Connect emergency management, clinical, and IT teams
- Use common escalation paths

03 OPERATIONAL VALIDATION

- Test plans and workflows under realistic conditions
- Evaluate patient journey impacts

04 CONTINUOUS IMPROVEMENT

- Turn lessons learned into assigned actions
- Update plans and repeat the exercise cycle

ANTICIPATE → ALIGN → OPERATE → IMPROVE

Questions?



Thank you

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