

Resilience in Action

A Unified Clinical Downtime Strategy

Practical workshop for Meditech clinical informatics leaders

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Learning Objectives

Apply

National standards and best practices to local downtime strategies.

Implement

Practical tools and workflows, including training, playbooks, and technology criteria.

Evaluate

Downtime readiness using metrics and governance models that support continuous improvement.

When Systems Go Down, Care Can't Stop

Case Study: A reported cyber event at a major healthcare technology company disrupted enterprise operations and affected downstream care delivery.



Technology disruption quickly becomes a clinical operations problem.

Different triggers, similar clinical needs

Model must work across planned, unplanned, degraded, and prolonged events.

Planned EHR downtime

Known window, defined preparation

Unplanned EHR outage

Sudden activation, rapid impact assessment

Network degraded or down

Alternative access and local redundancy

Infrastructure event

Power, telecom, printing, environmental issues

Third-party dependency

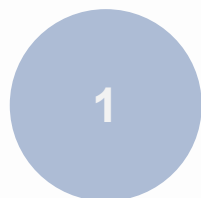
Labs, imaging, medication tools, interfaces

Prolonged disruption

Staffing, supplies, handoffs, recovery sequencing

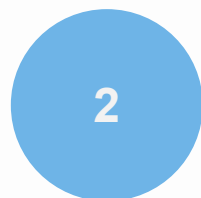
Design for the clinical work that must continue, not just the technical failure that started the event.

Downtime changes the care system



EHR Unavailable

Systems down or degraded



Workflows Change

Paper, runners, calls, local tools



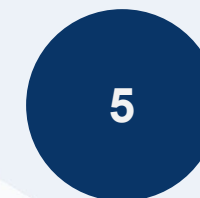
Care Delays

Orders, meds, diagnostics, handoffs



Safety Risks Rises

Identification, allergies, duplication, omissions



Recovery Burden

Back entry, reconciliation, record integrity

The clinical risk is not the outage itself. It is what the outage does to decision-making, coordination, and recovery.

Downtime creates patient safety risks

Risks spreads across communication, treatment, medication safety, and documentation workflows.

Communication Breakdowns

Care teams may struggle to coordinate without electronic messaging and alerts, increasing the risk of missed handoffs.

Medication Errors

Lack of access to allergy information, current medications, and dosing guidelines can lead to incorrect prescriptions or administration.

Delayed Diagnostics & Treatments

Lab and imaging results may not be available, slowing critical interventions.

Compromised Quality Measures

Nursing Sensitive Indicators – urinary catheter days, central line days

What you will leave with

A practical adoptable model

1 A standards-to-strategy map

Translate Joint Commission, CMS, and SAFER guidance into local downtime requirements.

2 A readiness operating model

Use governance, role clarity, tools, education, and metrics as one system.

3 A 30/60/90-day action plan

Identify the next steps your hospital or health system can start immediately.

Adapt the examples to your EHR build, emergency management structure, regulatory, and clinical policies.

Translate standards into operating requirements

Use national guidance as a design checklist for clinical downtime.

National Guidance



Prepare to preserve patient safety after cyber and technology disruptions.



Maintain an all-hazards plan, policies, communication plan, training, and testing.



Plan for safe care when the EHR is unavailable, planned or unplanned.

Hospital Standards

Build a downtime planning committee, clinical workflows, alternate communication, and role-based training.

Embed downtime into emergency operations, staff education, exercises, documentation, and continuity plans.

Define downtime toolkits, access to critical content, activation criteria, and recovery workflows.

When everything feels urgent, score it

Objective prioritization protects scarce time and directs effort toward the highest clinical value.

Safety and Compliance

Patient Safety / Care Continuity

Regulatory Compliance

Downtime Frequency / Risk

Operational Value

Operational Continuity

Financial Impact

Staff Burden / Efficiency

Enterprise Viability

Scalability / Enterprise Impact

Stakeholder Urgency / Demand

Technology Readiness / Feasibility

Scoring: 3 = significant impact, 2 = moderate impact, 1 = minimal impact, 0 = no meaningful impact

Why Prioritization Matters

High Impact Validation

Operational Request:

Recovery Guide

Grid Score:

27 out of 27

Resiliency Index Survey

Category	Score 3	Score 2	Score 1	Score 0
Patient Safety/ Care Continuity	Patient safety significantly impacted without initiative	Patient safety impacted without initiative	Patient safety minimally impacted without initiative	No impact to patient safety
Regulatory Compliance	Non-compliance results in significant legal/accreditation risk	Non-compliance results in moderate risk or citations	Non-compliance results in minor issues or warnings	No compliance impact
Operational Continuity	Critical operations halted without initiative	Major disruptions to workflows	Minor disruptions or delays	No operational impact
Financial Impact	High financial loss or cost avoidance	Moderate financial implications	Low financial impact	No financial impact
Staff Burden / Efficiency	Significantly reduces staff burden or improves efficiency	Moderately improves efficiency	Slight improvement	No change or increases burden
Downtime Frequency / Risk	Addresses frequent or high-risk downtime scenarios	Addresses moderately frequent or risky scenarios	Rare or low-risk scenarios	No relevance to downtime risk
Scalability / Enterprise Impact	Benefits all facilities or enterprise-wide	Benefits multiple facilities or regions	Benefits a single facility	Limited or no scalability
Stakeholder Urgency / Demand	High urgency or demand from multiple stakeholders	Moderate urgency or demand	Low urgency	No expressed need
Technology Readiness / Feasibility	Fully ready and feasible with existing resources	Mostly feasible with minor adjustments	Requires significant development or resources	Not feasible currently

Why Prioritization Matters

High Effort, Low Impact

Operational Request:

Downtime Forms on iPad

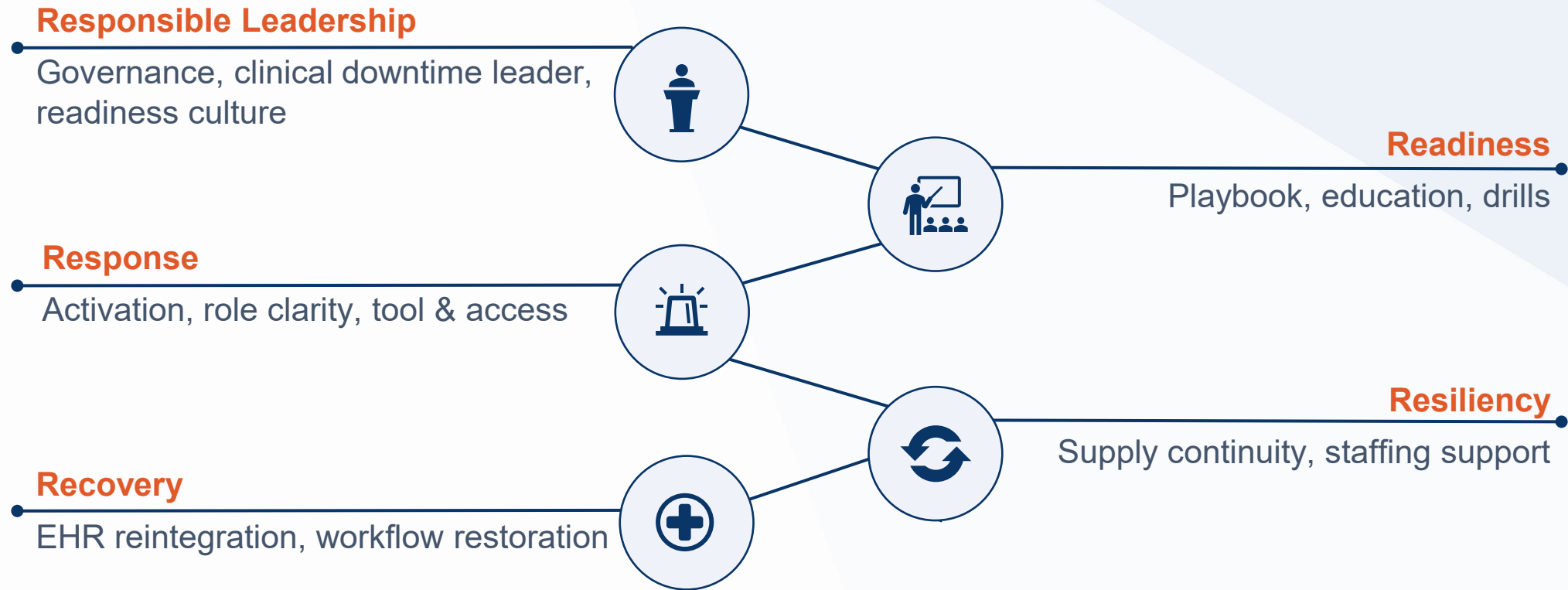
Grid Score:

7 out of 27

Objective scoring reveals true impact

Category	Score 3	Score 2	Score 1	Score 0
Patient Safety/ Care Continuity	Patient safety significantly impacted without initiative	Patient safety impacted without initiative	Patient safety minimally impacted without initiative	No impact to patient safety
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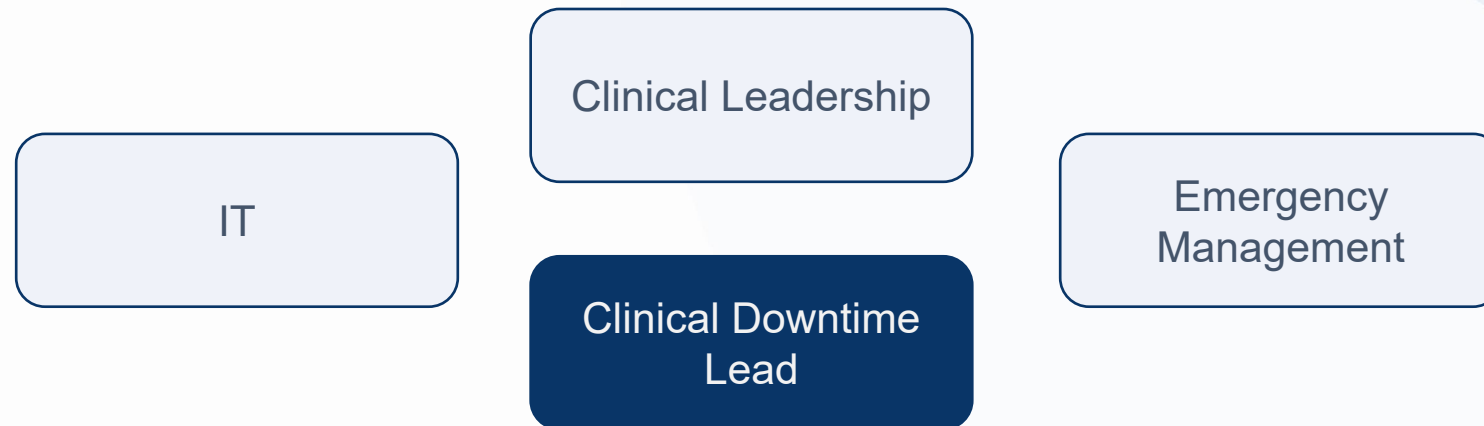
5Rs | A repeatable operating model



Role clarity is the first operational control

Collaborate | Lead | Implement

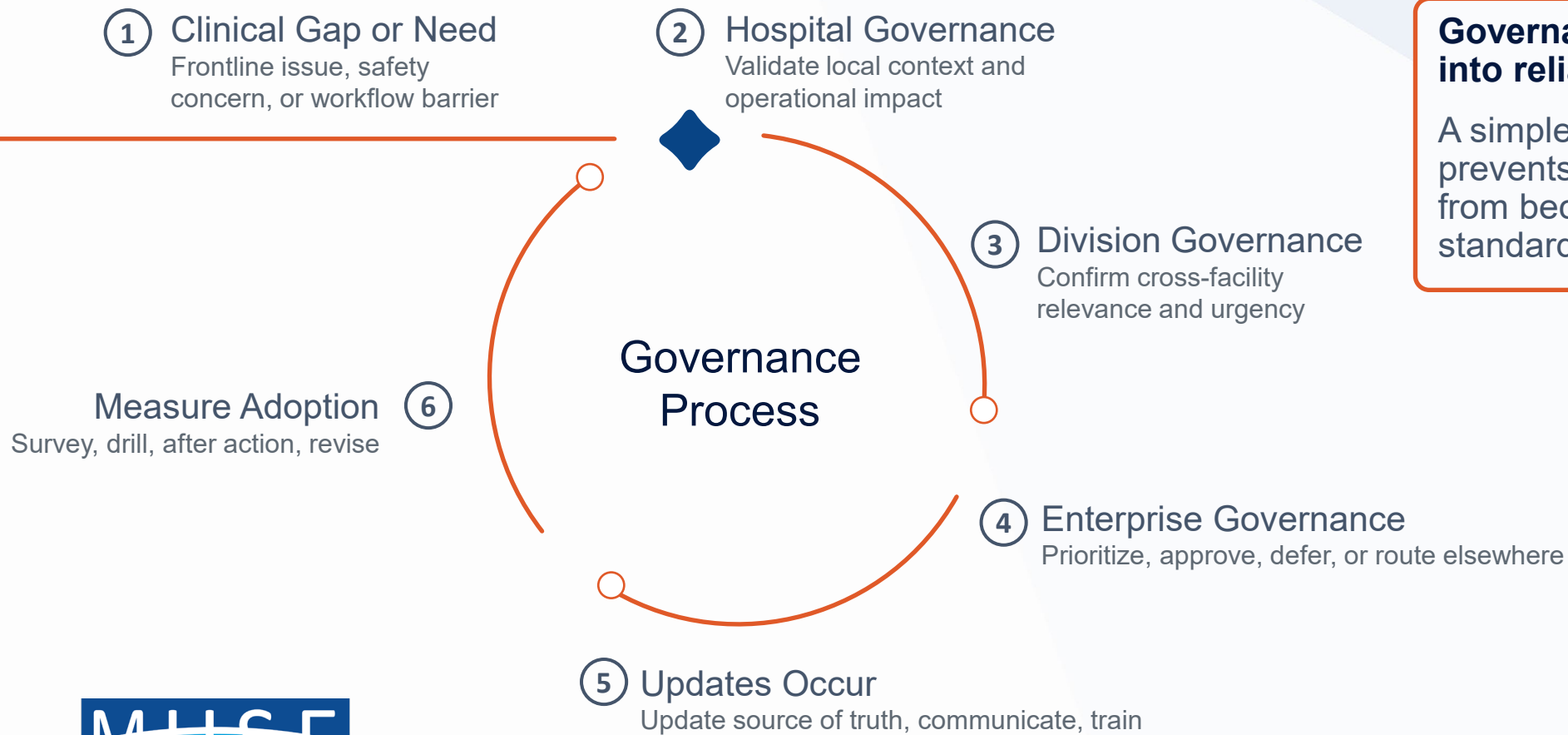
Ownership does not mean doing all the work. It means coordinating the clinical system of work.



Why this Matters?

Putting clinicians at the center of leading downtime

Governance for Patients & Clinicians



Governance turns field needs into reliable standards`

A simple, visible pathway prevents local workarounds from becoming ungoverned standards

Measure readiness before the event

A resiliency index turns subjective confidence into actionable, repeatable insight

Survey

Frontline & leader perspective

Baseline

Domain score and gaps

Target

Prioritize resources

Repeat

Measure progress

Responsible Leadership



Readiness



Response



Resiliency



Recovery



Establishes downtime resilience framework

Data-driven prioritization resources & interventions

Clinical Downtime Playbook

A playbook reduces variation and gives hospitals a common path to assess, escalate, respond, and recover.

Purpose

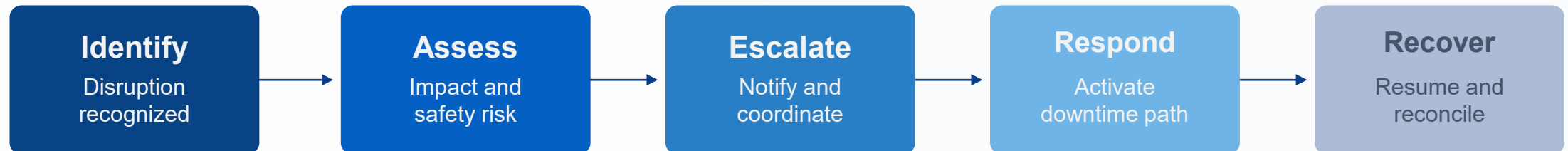
Standardizes clinical operational response during disruptions

Creates a common framework across hospitals and roles

Core components

- 1 Preparation
- 2 Escalation
- 3 Response coordination
- 4 Recovery

Activation Workflow



Education should meet the moment of use

Design education for recognition, safe care continuation, and consistent recovery



Onboarding & Annual eLearning

Baseline competencies for all clinical colleagues and role-specific audiences.



Just-In-Time Guides

Concise tools available during downtime, designed for high-stress use.



Downtime Drills

Practice activation, paper workflows, communication, and recovery handoffs.

Why downtime forms require education

Today's Workforce Lack paper documentation experience.

The form is the workflow. Education must show staff how to document safely when the EHR is unavailable.

- **Teach use, not just location**

Where to document, what to verify, and how to handle exceptions

- **Practice through scenarios**

Medication timing, held doses, initials, and escalation points

MEDICATION ADMINISTRATION RECORD PAGE 1

GI BLEED
NEED DDMO

AGE
ADM
NOT
ALL
ADR

Use Correct Columns: Record initials and times in the right time frame column.

RX# 01-0700 0701-1500 1501-2300

POD ~~0530~~ 1300 1830 2200

DOSE

Label CMS: Scan LISPRO insulin CDCE for every 20 units administered

POD 0900

LA Patient NPO

*** FLOOR STOCK ITEM ***

SIGNATURE	INIT.	SIGNATURE	INIT.	SIGNATURE	INIT.
Betty Smith, RN	BS				

Downtime form governance in action

Downtime form updates should improve usability, align to workflow, and reduce cognitive load.

What changed

- Better alignment to downtime viewer printout
- Easier documentation during downtime

Before:

[Hospital Facility/Address]

***Medication Administration Record** (Document per facility policy)

Allergies: _____ Height: _____ Weight: _____

Administration period: / / to / /

Medication, Dose, Route, Frequency	Start/Stop	0700- 1859	1900-0659	Administration notes
Parameters/Administration criteria:				
Parameters/Administration criteria:				



After:

Medication Administration Record

Patient Name: _____ Acct#: _____ Visit Type: _____
DOB Sex Age: _____ Admit Date: _____ Attending Dr: _____ Height: _____ft/in _____cm
MRN: _____ Facility: _____ Location: _____ Weight: _____lbs _____kg

*Add additional allergies onto another page

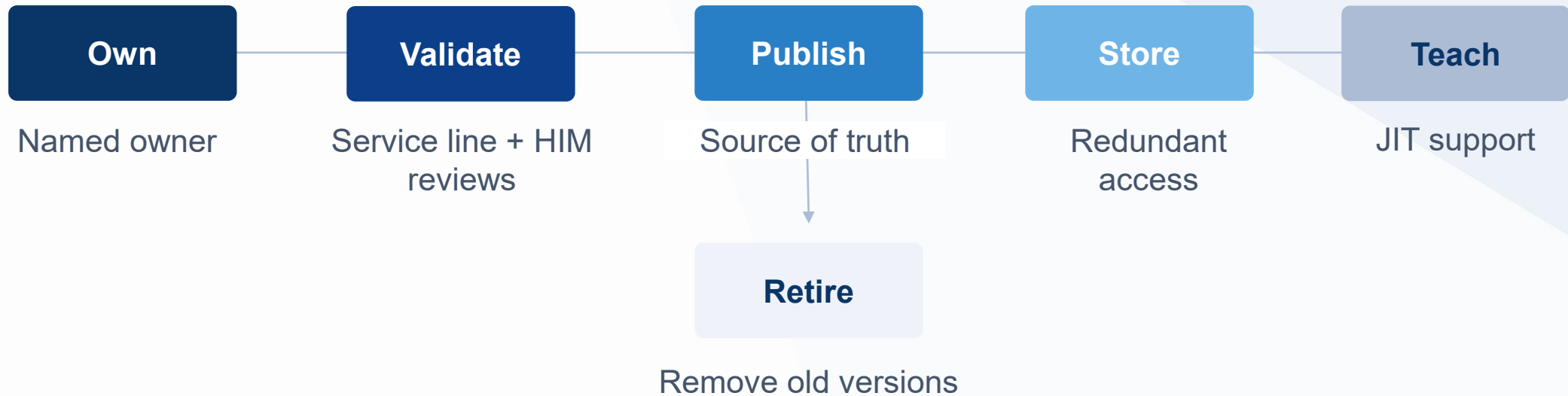
Allergy	Type	Severity	Date	Reaction					Comment

Medication Details		Start/Stop Date/Time	Administration Documentation			Comments	
Med Name:	Dose:	Start	Date	Time	Site	Initials	
Route:	Schedule:	Stop					
Directions:							
Ordering Dr:		<input type="checkbox"/> PRN					

Impact: Reduced errors, faster documentation, improved confidence during downtime.

Downtime forms are clinical workflows

Downtime forms are not just a PDF or a screenshot of the EHR



Poor governance creates version confusion, documentation gaps, and recovery burden

Downtime Solution Technology Criteria

What must the solution do for safe clinical operations?

1 Downtime availability

Works during EHR downtime and defined degraded modes.

3 Data freshness cues

Makes last refresh and data limitations obvious.

5 Downtime form storage

Ability to store downtime forms, guidance, and documents.

2 Essential clinical data

Provides medications, allergies, orders, results, demographics, and key history.

4 Patient ID safeguards

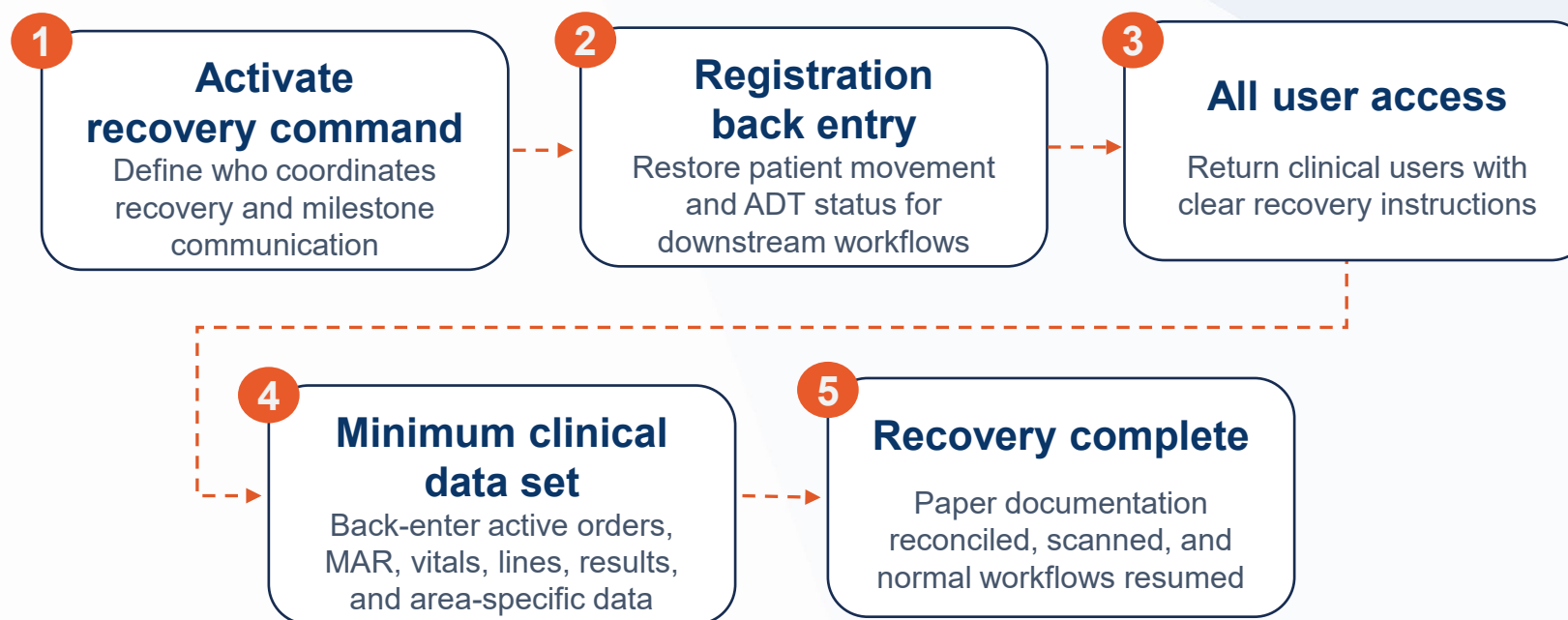
Supports safe registration and patient tracking workflows.

6 Supports recovery

Allows for users to recover from downtime quickly when the EHR comes back online.

Recovery starts before systems come back online

A downtime recovery guide provides the structure for safe re-entry of patient data and restoration of clinical workflows.



Define Minimum Data Set

Sequence Recovery Milestones

Assign Clear Ownership

Your 30/60/90-day Action Plan

Start with controllable, high-value work that builds the foundation for resilience

Next 30 days

Name a clinical downtime owner

Inventory forms and access points

Review activation and escalation criteria

Identify one high-risk clinical workflow

Next 60 days

Define governance pathway

Update playbook structure

Prioritize top three gaps

Draft JIT education for one workflow

Next 90 days

Run a tabletop or downtime drill

Measure readiness baseline

Update forms or workflows from findings

Create a recovery minimum data set

Five Takeaways

- 1 Treat downtime as a patient safety capability.
- 2 Translate national guidance into local standards.
- 3 Govern the basics: forms, playbooks, activation, and recovery.
- 4 Measure readiness before the real event tests you.
- 5 Use drills and after-action findings to continuously improve.

Make downtime preparedness part of your culture.



Thank You



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Appendix

Starter tools for adopting a practical model

- Applying National Frameworks
- Prioritization scorecard started
- Resiliency Index survey starter domains
- Activation workflow
- Downtime forms governance checklist
- References

Appendix: Applying National Frameworks



SAFER Safety Assurance Factors for EHR Resilience



Downtime Initiative	JC Alert #67	CMS Rule	SAFER
EHR Downtime Viewer	Supports safe access to data	Supports emergency access	Design for usability and safety
Downtime Forms & Standard Operating Guidelines	Standardized workflows for safety	Aligns with emergency procedures	Flexible, resilient workflows
Resiliency Index	Tracks training and response	Benchmarks readiness and recovery	Improvement—focused metrics
Designate Director of Clinical Informatics as Hospital Clinical Downtime Leader	Defines leadership roles	Integrates with emergency leadership	Supports adaptive leadership
Clinical Downtime Playbook	Guides communication protocols	All-hazards planning tool	Encourages learning from success

Appendix: Prioritization scorecard starter

Use a simple rubric to compare requests objectively

Category	3	2	1	0
Patient Safety / Care Continuity	Significant impact	Moderate impact	Minimal impact	No impact
Regulatory Compliance	High legal or accreditation risk	Moderate risk	Minor issue	No impact
Operational Continuity	Critical operations halted	Major disruption	Minor delay	No impact
Staff Burden / Efficiency	Significant reduction	Moderate reduction	Slight improvement	No change
Scalability / Enterprise Impact	All facilities	Multiple facilities	Single facility	Limited scale
Technology Readiness / Feasibility	Ready now	Minor adjustments	Significant resources	Not feasible

Appendix: Resiliency index survey starter domains

Use questions that reveal whether hospitals can activate, sustain, and recover

Responsible Leadership

Cross-functional committee active
Escalation and authority defined
Named clinical downtime leader



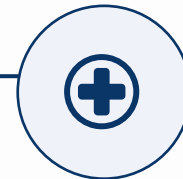
Response

Communication alternatives tested
Activation criteria understood
Roles clear by department



Recovery

Interdependent workflows sequenced
Minimum clinical data set established
Back-entry priorities defined



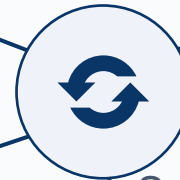
Readiness

Downtime kits and forms accessible
Education embedded in onboarding
Drills completed and documented

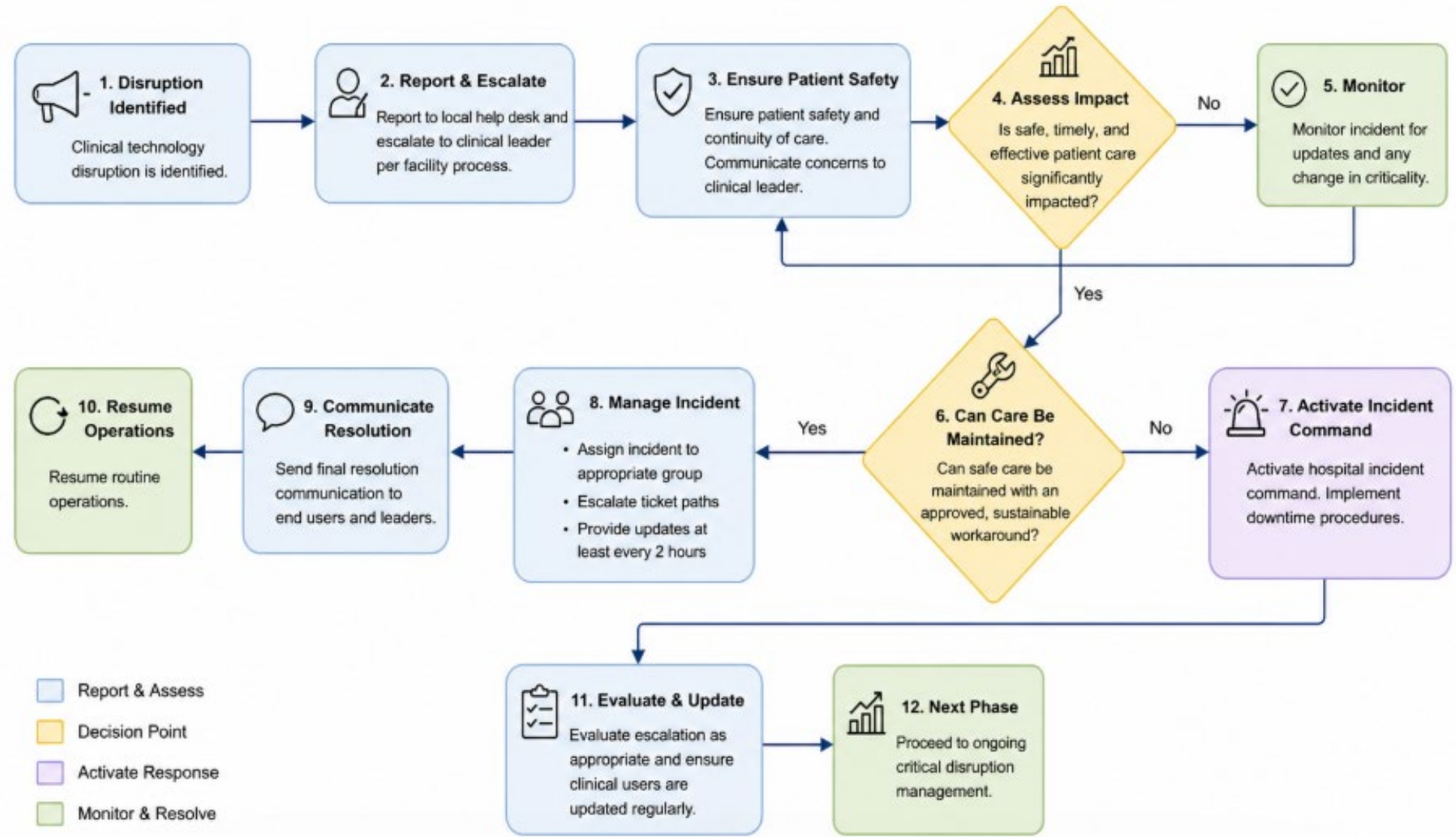


Resiliency

Staffing support strategy defined
Alternative access/storage available
Supplies and paper processes sustained



Appendix: Activation workflow



Appendix: Downtime forms governance checklist

Before publishing or updating a downtime form, confirm these controls

- Named form owner and clinical validator
- Version number, date, and barcoding
- Alignment with current EHR workflow and local policy
- HIM and compliance review when required
- Single source of truth and clear access instructions
- Redundant access plan for EHR outages
- Just-in-time education for clinicians
- Recovery and scanning/back-entry expectations defined

A form is ready when it can be found, understood, used, and recovered from during a downtime event.

References

Agency for Healthcare Research and Quality. (2018). Stories from the field.
https://ps0.ahrq.gov/with_pso/stories

Centers for Medicare & Medicaid Services. (2024, September 10). Electronic clinical quality measures basics. <https://www.cms.gov/medicare/regulations-guidance/promoting-interoperability-programs/electronic-clinical-quality-measures-basics>

Khajouei, R., Abbasi, R., & Mirzaee, M. (2018). Errors and causes of communication failures from hospital information systems to electronic health record: A record-review study. *International Journal of Medical Informatics*, 119, 47–53.
<https://doi.org/10.1016/j.ijmedinf.2018.09.004>

Larsen, E., Hoffman, D., Rivera, C., Kleiner, B. M., Wernz, C., & Ratwani, R. M. (2019). Continuing patient care during electronic health record downtime. *Applied Clinical Informatics*, 10(3), 495–504. <https://doi.org/10.1055/s-0039-1692678>