



Where the
MAGIC
happens

2024 **KONnect**

Healthcare Crisis Preparedness: Ensuring Continuity and Patient Safety

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- Not-for-profit healthcare organization headquartered in Roanoke, Virginia
- 9 hospitals
 - Level I and Level III trauma centers
 - Nearly 300 primary & specialty physician practices
- Patient population of almost 1 million Virginians

- Strategic partners at Virginia Tech and Radford University
- Largest private employer in Virginia west of Richmond
- Significant impact on the economic health of the region



BY THE NUMBERS



14,569
employees



264
practice sites



3,865
babies delivered



1,041
licensed beds



43,075
hospital admissions



53,218
surgeries



846
physicians



308,916
prescriptions filled



162,010
emergency department visits



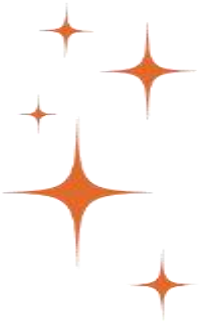
Risk and Resilience Under One Roof

– Agenda –



- How we use Riskonnect at Carilion Clinic
- Our simplified model for healthcare BCMS
- Continuity Planning using Riskonnect at Carilion
- Integrating Risk Management and Business Continuity Management to achieve Operational Resilience (OpRes)
- How does OpRes compare to Business Continuity Planning?
- Where does OpRes lie within the frameworks for Emergency Management, BC/DR, and InfoSec/Cyber Security?
- Recommendations to achieve Operational Resilience
- What it means to be Intentional and Adaptable with Risk and Resilience
- Explore Riskonnect and how it influences Patient Safety

Riskonnnect at Carilion Clinic



Riskonnnect Business Continuity & Resilience

- Build and maintain our BC Plans for Continuity of Operations Planning (COOP) and Crisis Preparedness
- Holds the BIA data collected. Allows us to identify risks.
- Maps our dependencies. Enables reporting.

Riskonnnect RMIS

- Rebranded at Carilion "SafeWatch"
- Develop and maintain the back-office engine
- Used for Patient Safety, Risk Mitigation, Claims Management (Legal and Employee Health)
- Allows for front end entry, and backend management.

Business Continuity Management System in Healthcare



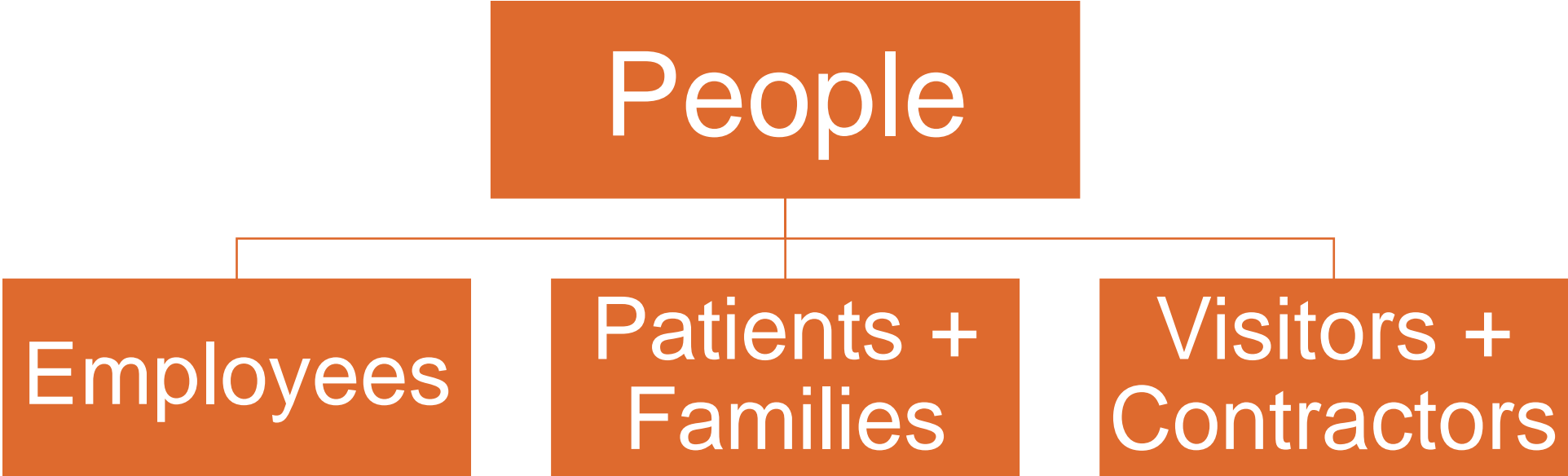
a BCMS can be simplified into three categories of preparedness to protect:

People

Property

Processes

Business Continuity Management System in Healthcare



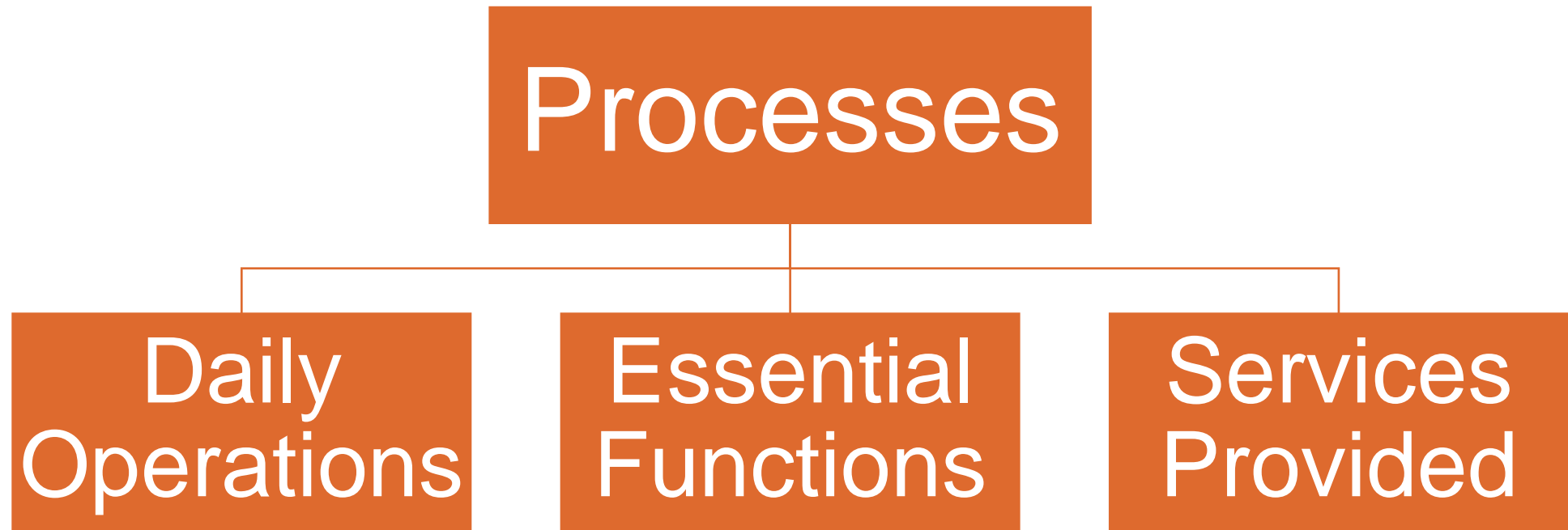
**EM & Life Safety, Police & Security,
HR, and Employee Health**

Business Continuity Management System in Healthcare



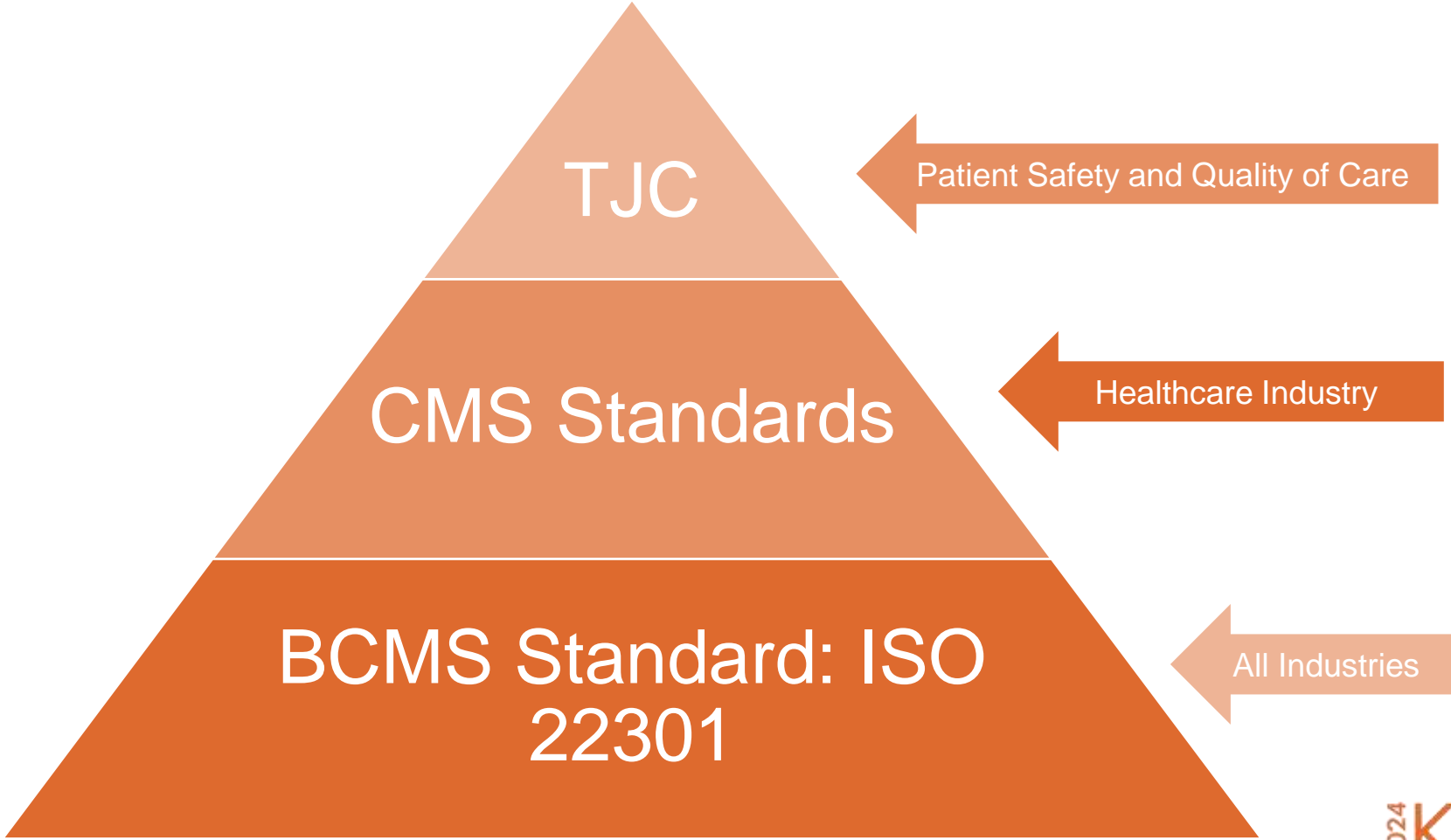
InfoSec, Physical Security, and IT DR, by hardening facilities externally, and internally with technology

Business Continuity Management System in Healthcare



**Clinical and Administrative/Support
Continuity of Operations Plans (COOP)**

Standards of Audit & Performance Measurement Business Continuity Management System in Healthcare



Carilion's Business Continuity Management System



5 Teams work in preparedness planning:

1. Emergency Management & Safety
2. Corp (Crisis) Communications
3. Business Continuity
4. Information Security
5. IT Disaster Recovery

Each champions resilience with:

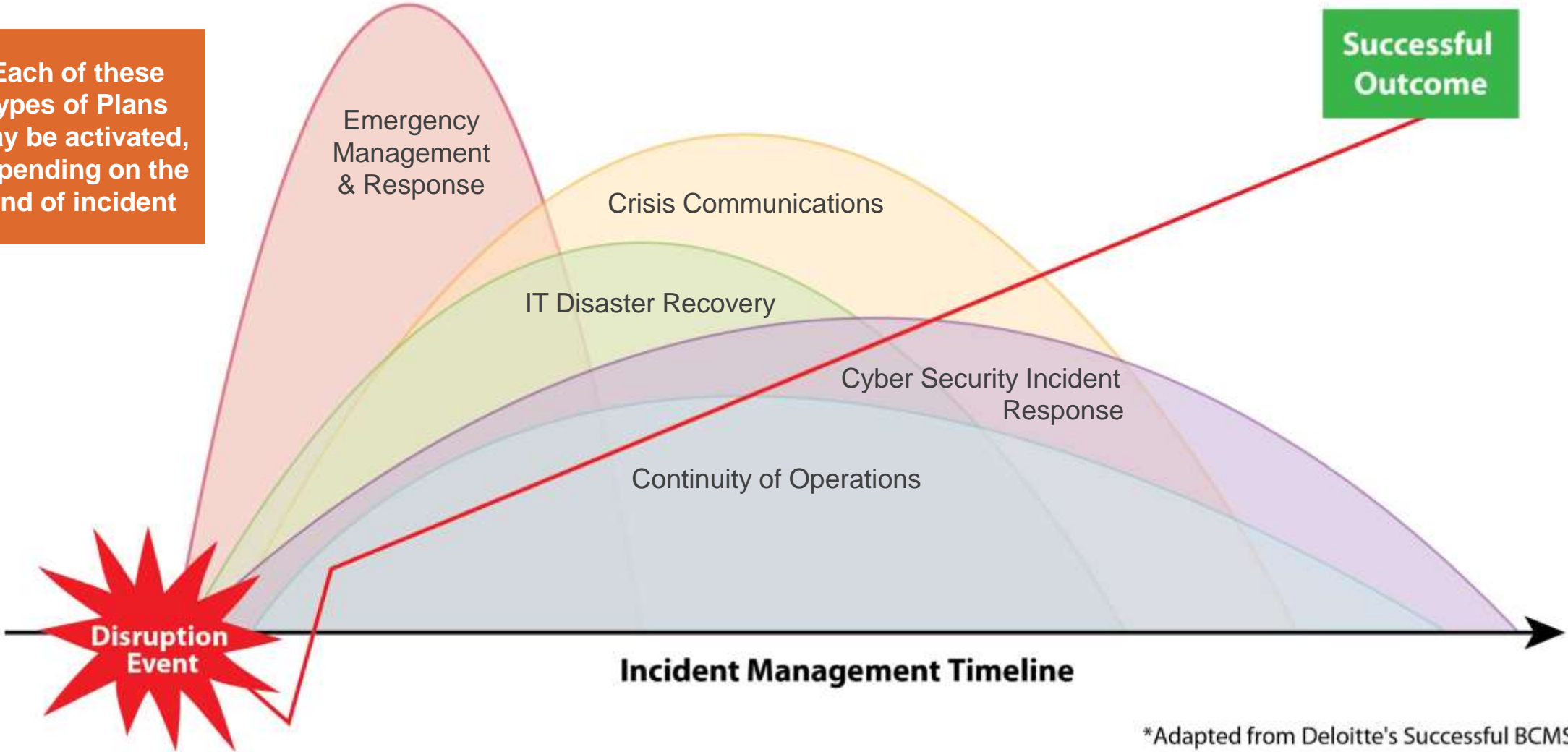
- ➔ Crisis Mgmt and Situational Awareness
- ➔ Messaging Readiness/Integrity
- ➔ Plans to Manage through Disruptions
- ➔ Cyber Vigilance and Threat Protection
- ➔ Technology Recovery Procedures

Carilion's Business Continuity Management System Incident Management Timeline by Plan



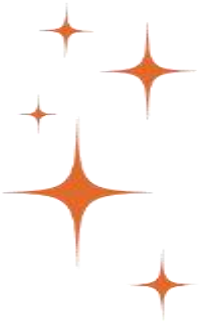
Each of these types of Plans may be activated, depending on the kind of incident

Successful Outcome



*Adapted from Deloitte's Successful BCMS

Carilion's Business Continuity Management System Emergency Management's Threat Assessment



Carilion's Dept. of Emergency Management & Safety performs a Hazard Vulnerability Analysis (HVA) as a threat assessment. When it comes to crisis planning, we have an all-hazards approach; meaning we build preparedness plans for all contingencies focused on

**the impact of the disruption, more
than the threat that may cause it.**

For example, many threats can cause a power outage. We focus on impacts.

Continuity of Operations Plans built in Riskonnect



100 Department-level plans across the system, organized by facility; each COOP:

- is either Clinical (supporting patient care and safety) or Administrative (indirect support)
- includes recovery strategies built around 4 major Loss Scenarios, specific to that department and recovery team → → → →
- includes key recovery documentation and downtime procedures for providing critical care and managing through disruptions
- documents upstream and downstream dependencies, from departments to facilities, from applications to suppliers



Continuity Program Management using Riskonnect



Carilion's COOP program is maintained within the SaaS tool

Riskonnect Business Continuity & Resilience

- Access is not dependent upon Carilion's technology or infrastructure; the software hosting our plans is accessible off-premise with direct connection to RK

Carilion assigns 300+ Plan owners/contributors full user privileges to access their plans from any device: to maintain their currency, update with lessons learned, and manage through a disruption

- Over 600 Carilion staff belong to Recovery Teams, with Roles and Responsibilities relative to their SME of the processes and essential services provided by their assigned departments
- All Riskonnect software users are required to attend hands-on training for operational readiness

Operational Resilience is where Risk Management and Business Continuity Intersect



One way to look at it:



Operational Resilience

Integrating Risk Management and Business Continuity Management to achieve Operational Resilience



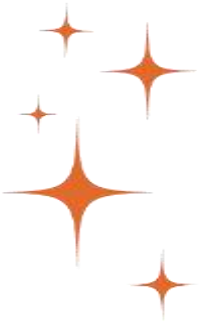
OpRes Defined:

“The ability for an organization to continue delivery of its most important services, as aligned to agreed-upon impact and risk tolerances, in an effort to avoid significant disruption to the company’s customers, operations, and the broader markets they serve.” – The BCI

These programs each contribute to Operational Resilience:

- Risk Management (via Governance, Risk, and Compliance)
- Business Continuity Management
- IT Disaster Recovery Planning
- Information Security (and Cyber Security Incident Response Planning)
- Incident Management (via Emergency Management and Crisis Communications)

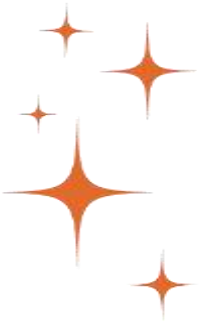
Business Continuity Planning is a subset of Operational Resilience



“Business Continuity and Operational Resilience involve intentionally positioning the organization to meet stakeholder expectations regardless of circumstance.”

- Riskonnect, Inc.

Operational Resilience... as compared to... Business Continuity Planning




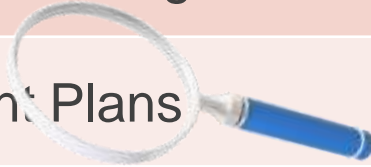
Preparedness



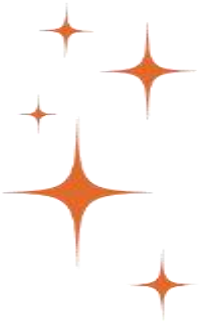
- **OPERATIONAL RESILIENCE**
- **BUSINESS CONTINUITY PLANNING**

Operational Resilience... as compared to... Business Continuity Planning



OpRes – Strategic	BCP – Tactical
Mitigate Identified Risk	Accept Identified Risk
Spend for Preparedness	Develop Response Plans
Implement Decisions	Document Recovery Strategies
Holistic  Organization's Success	Focus on Department Plans 
Prevent or Reduce Major Impact from Disruptions	Document Procedures for Managing through Disruptions (at degraded level)

EM/BC/DR/InfoSec Frameworks: Areas most influencing OpRes



Prevention, **Mitigation**, Preparedness,
Response, Recovery (*EM Framework*)

Prevent, Prepare, Manage, Respond,
Recover, Restore (*BCP Framework*)

Prevention, Response, Recovery,
Restoration, Resumption (*DR Framework*)

Identify, Protect, Detect, Respond, Recover
(*NIST Cybersecurity Framework*)



Recommendations to achieve OpRes through alignment with Risk Management



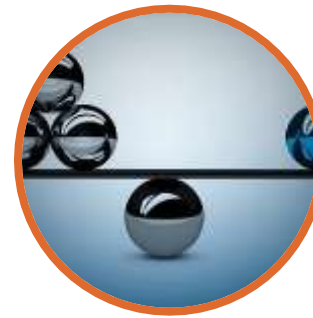
- 1 Develop and promote a culture of Operational Resilience
- 2 Reframe terminology and approach for how to assess and capture risk
- 3 Always do: BIAs + Risk Assessments; the data defines the vulnerabilities and risks to operational integrity
- 4 Coordinate and refine relationships among all programs contributing to OpRes; build appropriate governance
- 5 Define roles and responsibilities of leaders tasked with evaluating risk prioritization and mitigation
- 6 Charter an OpRes Steering Committee (or Risk & Resilience Committee) to manage risk, and report mitigation steps/spending to Exec Leadership (as necessary)

Risk & Resilience: What it Means to be Intentional and Adaptable



RM/IM/BC/ITDR Program Dir.

- Intentional about Risk Identification



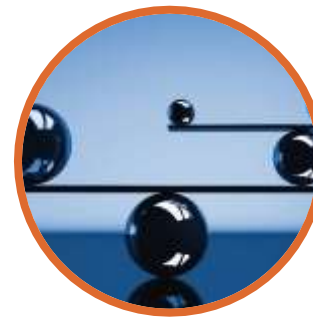
Committee Leaders

- Adaptable with Risk Evaluation & Prioritization



RM/IM/BC/ITDR Program Dir.

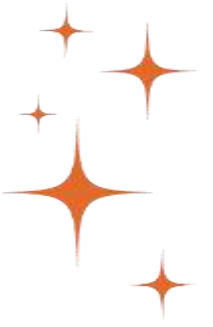
- Adaptable with Recovery Planning



Committee Leaders

- Intentional about Risk Mitigation or Avoidance

Demonstrate Value with Risk Assessment and Response: Avoid | Mitigate | Accept



Lowest hanging fruit to help show value of OpRes:

- The easiest risk to identify and mitigate is a SPOF
- Eliminate Single Points of Failure in the org
- Start with most critical operations and vulnerabilities that senior leaders say keep them up at night
- Find and mitigate those SPOFs as initial OpRes push

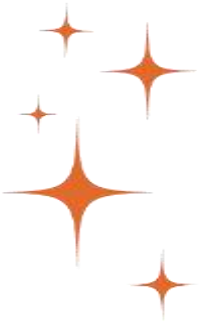
Business Continuity and Operational Resilience: Final thoughts and recommendations



Objective: Maintain Minimum Viable Service Levels

- Partner with Risk Management as early as possible in building your program
- When you are embedding BCMS in your organization, integrate Risk into your structure
- Achieving a culture of OpRes means that Business Continuity and Risk go hand-in-hand, and one isn't considered without the other

Business Continuity and Operational Resilience: Final thoughts and recommendations



Objective: Maintain Minimum Viable Service Levels

- Identify critical suppliers and request they complete a vendor risk vulnerability assessment
- Identify Important Business Services (IBS), and critical functions within those
- Prioritize vulnerabilities that may threaten impact tolerances (maximum tolerable downtime)

Operational Resilience Resources Relied Upon for this Presentation



<https://www.calqrisk.com/compliance/the-five-pillars-of-operational-resilience/>

<https://www.conference-board.org/publications/making-operational-resilience-a-competitive-advantage>

<https://www.thebci.org/news/operational-resilience-the-phoenix-of-business-continuity.html>

<https://www.thebci.org/resource/bci-continuity-and-resilience-report-2023.html>

<https://www.thebci.org/resource/bci-operational-resilience-report-2023.html>

<https://www.thebci.org/resource/bci-operational-resilience-report-2024.html>

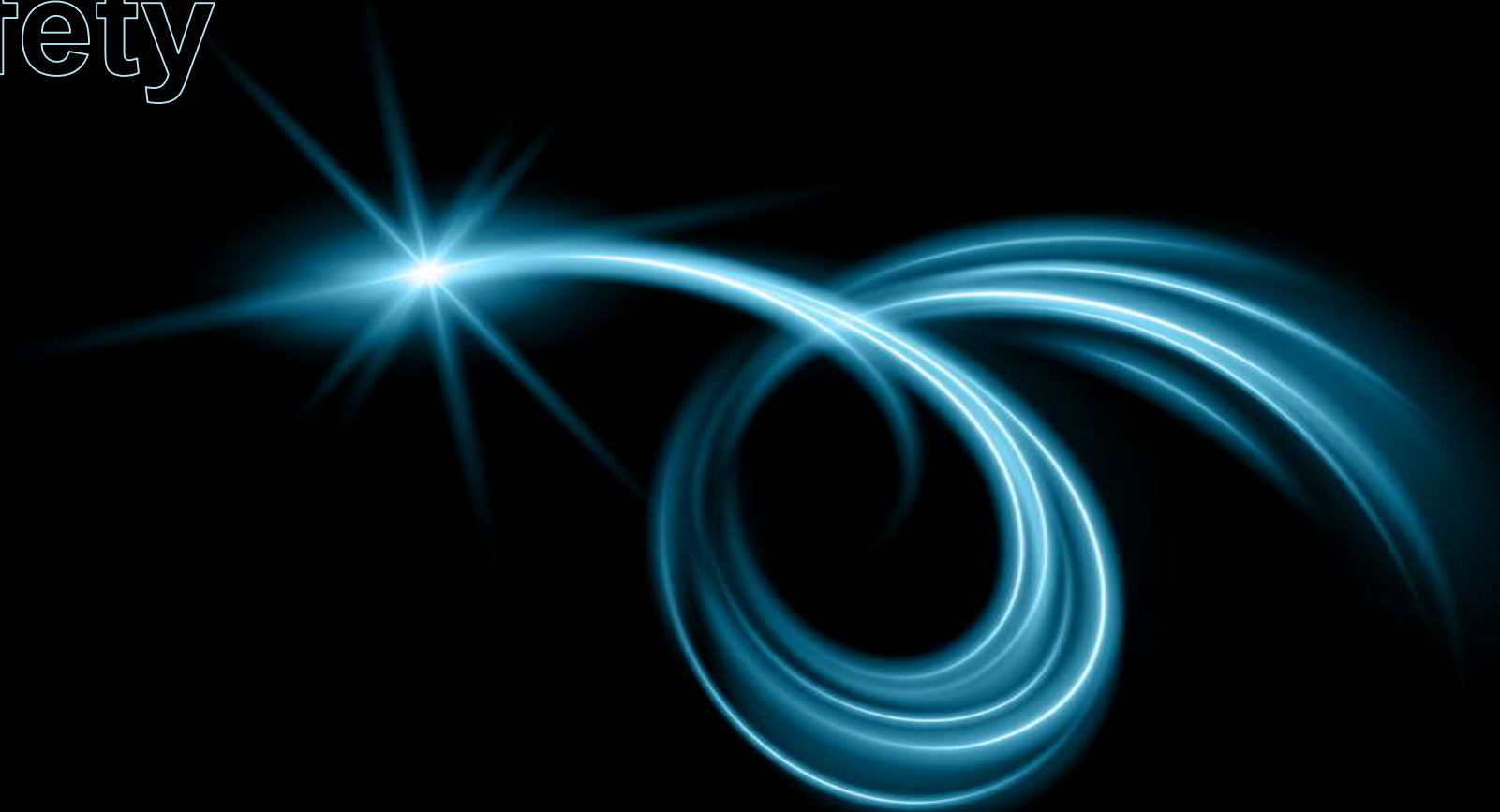
<https://www.protechtgroup.com/en-us/blog/opres-vs-bc-vs-dr-whats-the-difference>

<https://www.fema.gov/emergency-managers/national-preparedness/frameworks>

<https://www.nist.gov/cyberframework>

www.grf.org/orf

Patient Safety





SafeWatch Portal

For real time assistance regarding maintenance issues please place a work order, technology issues please place an Edison ticket or call 540-224-1599, for non provider employee issues please contact Human Resources at (800) 599-2537.



**Patient Event, Near Miss,
Unsafe Condition**



Employee Injury/Exposure



**Visitor/Non-Carilion Emp -
Event, Injury, Exposure**



**Complaint/Grievance -
Patient and/or family**

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SafeWatch Portal



Medication, Narcotic, Adverse Drug Reaction

Med event,ADR,IV
infiltrate,miss/incorrect count



Anesthesia and/or Sedation

General,regional,local/topical
anesthesia events



Perioperative

Surgery delay,retained
item,unplanned returns



Diagnostic and/or Therapy

Lab,radiology,echo,vascular,IR,
EKG,EMU,EEG,PT/OT



Device, Equipment, Supplies

Implantable,medical/surgical,or
reusable equipment



Patient Care

Alerts,code blue,unplanned
events,nutrition



Women and Infants

Events in involving
mother,fetus,and/or neonate



Fall

Slip, trip, drop



Pressure/Skin Injury

Pressure wound, skin
tear/laceration



Exposure (Patient Exposure)

Patient-to-patient, visitor-to-
patient



Security

Verbal/physical
aggression,AMA, unsafe



Unprofessional Provider Conduct

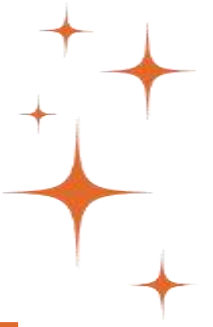
MD,DO,NP,PA,CRNA,resident,fell
ow



Other

Category not available

Management of Patient Safety



Patient Events
with Reviews

Patient
Feedback with
Reviews

AHRQ Patient
Safety
Indicators

Claims (Legal
and Employee
Health)

Mortality Cases
with Reviews

CMS HACs

Others (30
Day Mortalities)

Root Cause
Analysis and
Action (RCA2)

Equity and
SDOH Analysis
(related to
events)

HAI and HACs



DATA WAREHOUSE



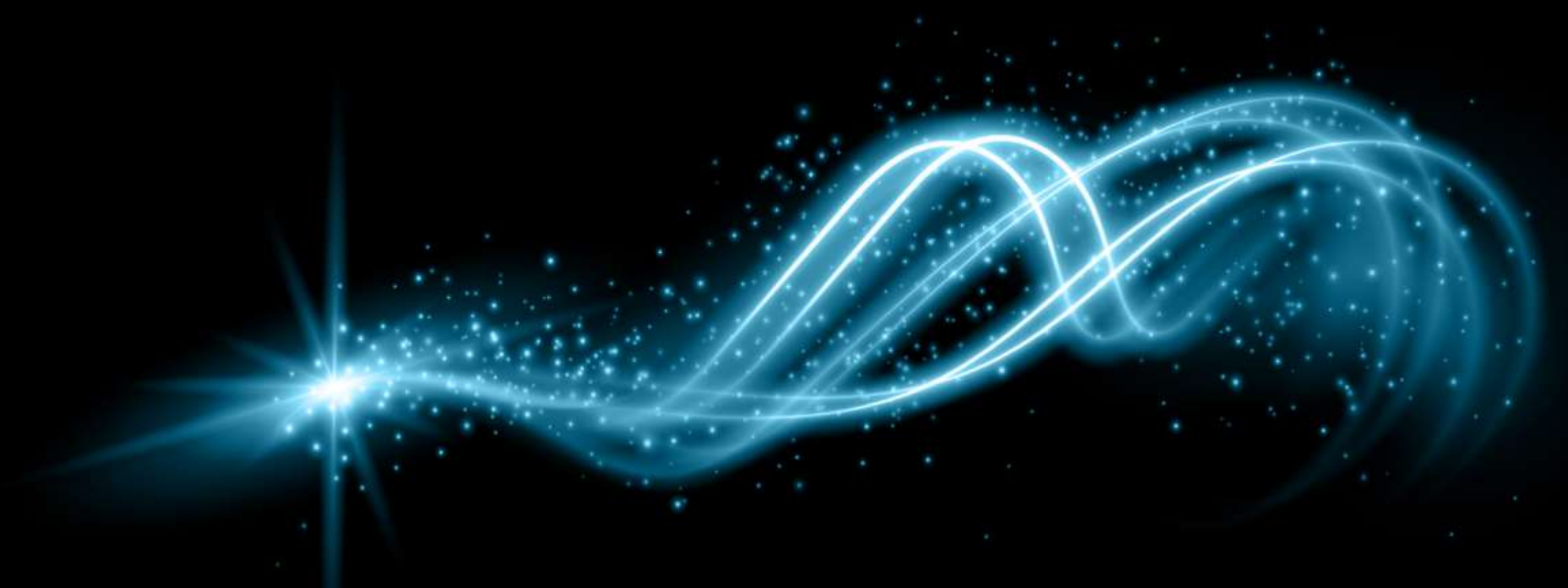


IMPACT



- Mortality Index (50%)
- PSI and HAC
- Safety Culture
- RCA2 Action Items
- Publicly Reported Program Performance

Questions?



RISK UNDER
ONE **ROOF**

Thank You!

CONNECT WITH ME.

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