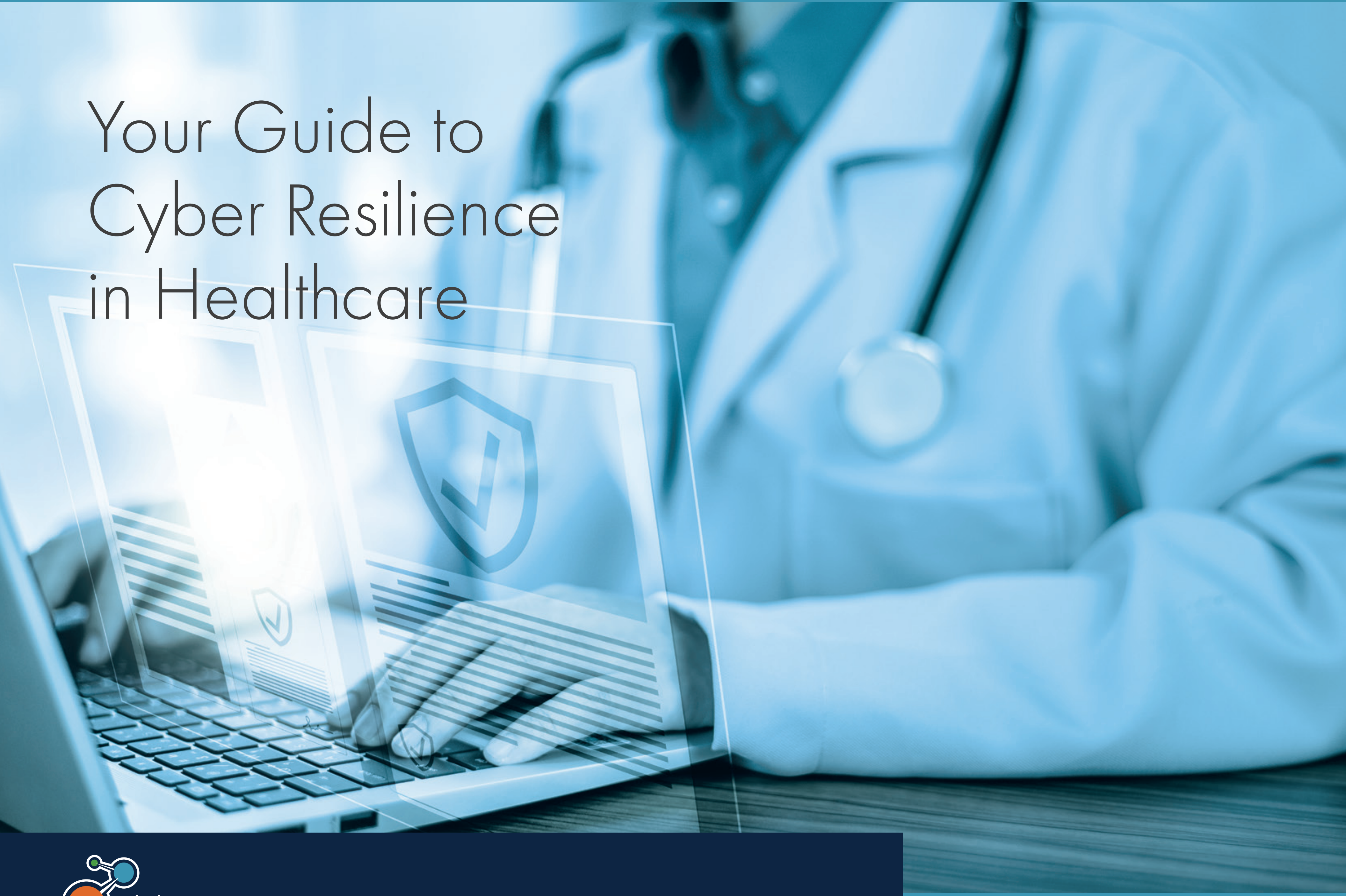
EBOOK

Your Guide to Cyber Resilience in Healthcare



riskonnect

Sophisticated hackers, relentless cybercriminals, and distracted employees have converged into an explosive landscape of cybercrime – with sobering success rates.

The cost to healthcare organizations is staggering. Consider Change Healthcare, which so far has incurred about $870 million in costs related to a recent cyberattack, including restoring systems, response efforts, and medical costs linked to suspending some care-management activities. Direct costs for the year are expected to exceed $1 billion.

If you haven't yet felt the sting of a cyberattack, ransomware scheme, or data breach, consider yourself lucky. Last year, nearly two-thirds of healthcare organizations experienced ransomware attacks, up 26% in two years and costing an average of $2.20 million for recovery. You could be next.

Cybercriminals are continuously making their attacks more targeted, more disruptive, and more ingenious. Healthcare organizations – with their treasure troves of sensitive patient information – are particularly vulnerable for criminals looking to cash in on the black market.

In a moment of distraction, even vigilant employees can let in an attacker. And with the help of generative AI, these attacks appear increasingly authentic, making them more difficult than ever to thwart.

Cybersecurity is certainly essential to block attacks from happening in the first place. But as criminals have demonstrated an uncanny ability to adapt, these measures alone cannot protect your organization and your patients. You need a comprehensive cyber resilience plan to help you quickly get back on track if an attack is successful.

This ebook will help you understand cyber resilience, what's at stake, and how to strengthen your approach.

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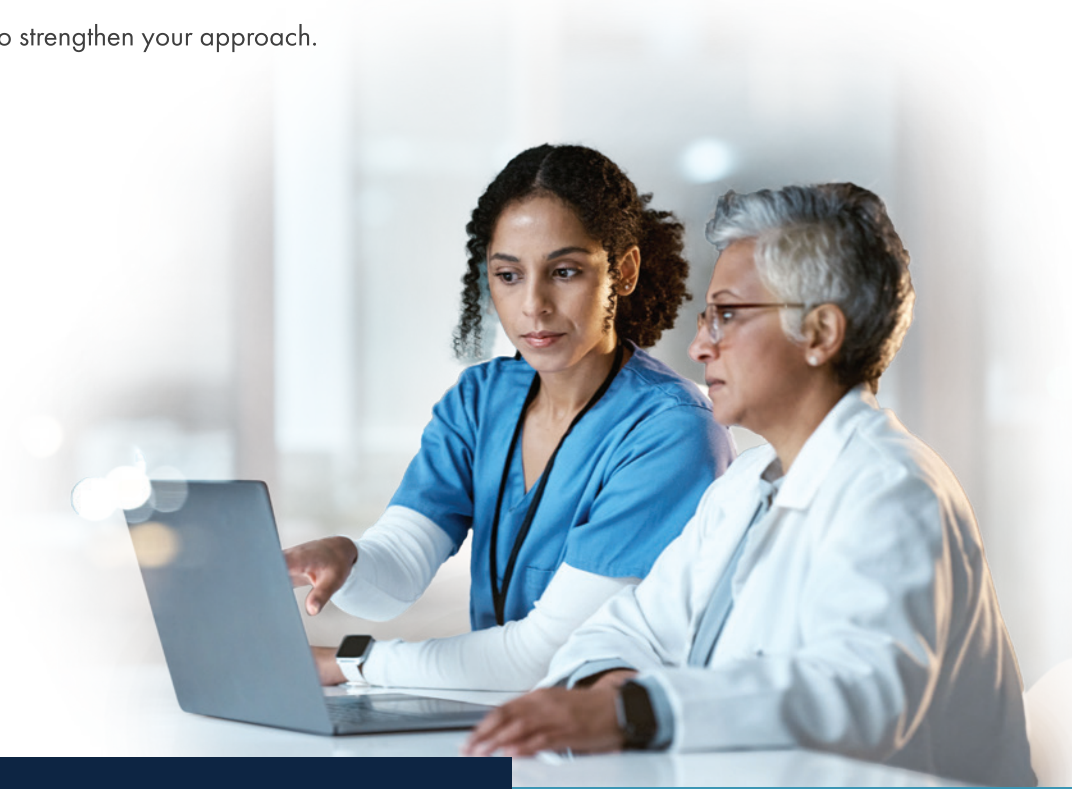


WHAT IS CYBER RESILIENCE?

Cyber resilience refers to an organization's ability to anticipate, adapt, respond, and recover from a successful cyberattack, including malware, phishing and spam, social engineering, and insider threats. If you experience an incident, a cyber resilience plan is what will allow you to continue operations with minimal disruption.

Cybercrime is one of the biggest threats to healthcare organizations because they possess so much private patient information of high value to criminals.

Ransomware and security breaches are the top cybersecurity concern among healthcare executives. And 53% of survey respondents believe that a ransomware attack disrupted patient care.

Among the forces driving up both the amount of activity and the cost are:

Stiff regulatory fines and penalties.

Regulators around the world are responding to growing cyber-related threats with tougher rules around disclosures and safeguards – and healthcare is no exception. In the U.S., HIPAA's Security Rule requires annual risk assessment and proper safeguard for PHI. A bipartisan working group was recently established in the U.S. Senate to propose legislative solutions to strengthen cybersecurity in the healthcare sector. And the Biden administration has announced plans to enforce minimum cybersecurity standards for hospitals to prioritize patient privacy and medical services.

HEALTHCARE CYBER RESILIENCE REGULATIONS TO NOTE

HIPAA Security Rule

The EU's Network and Information Systems Directive 2022/0383 (NIS2)

Health Information Technology for Economic and Clinical Health Act (HITECH)

Payment Card Industry Data Security Standards

The FDA's Quality Management System Regulation (QMSR)

High-value information.

Stolen health records may sell for up to 10 times or more than credit card numbers on the dark web. Hospitals are a lucrative target with their plethora of PII, PHI, financial records, research data, proprietary competitive strategy, and other stored sensitive data. On top of this, many HCOs also rely on aging computer systems that lack today's security features designed to thwart attackers.

Massive financial and operational consequences.

Unauthorized cyberactivity of any kind can force healthcare organizations to take systems offline, bring in cybersecurity experts, and shut down or minimize operations until the problem is resolved, all of which can put patient safety at risk and make a significant dent in the bottom line. The average cost of a breach in healthcare today is nearly $11 million – up 8% in one year. That's more than double the average cost across all industries. And the reputational cost can be at least as damaging.

Savvy cybercriminals.

Bad actors are becoming increasingly clever in their attacks – and are even joining together to form sophisticated criminal gangs to advance their interests. They are leveraging technology like generative AI to stay a step ahead of cybersecurity protocols and eliminate telltale signs like phishing emails with misspellings. Instead of big, bold moves with instant rewards, criminals are starting to manipulate small bits of data to stay under the radar and wreak havoc over time. In the case of Change Healthcare, hackers were inside the organization's network for more than a week before launching the ransomware attack. Attacks are also becoming more focused, targeting supply-chain partners four, five, or six degrees from the original source.

Ubiquitous technology.

The increasing reliance on technology to maintain patient records, perform medical procedures, manage medications, report incidents, optimize operations, and store data makes system availability non-negotiable. Indeed, accomplishing even the simplest tasks – for patients, staff, suppliers – usually requires technology.

Internal threats.

Staff, partners, contractors, and suppliers with system access can compromise security, whether unintentionally or maliciously. Inside threats can range from accidental data exposure from improper handling to deliberate data theft and extortion.

Supplier threats.

Outside vendors can easily disrupt operations if they're not effectively managing cybersecurity and resilience. The threat from third parties increases as supply chains and services become more complex and reliant on technology. In fact, one study indicated that of the healthcare respondents that reported a ransomware attack, 46% stated it was caused by a third-party.

What Gets in the Way of Cyber Resilience ...	And What to Do about It
Labeling cyber resilience an IT issue	Incorporate cyber resilience into your broader patient safety and enterprise risk strategies..
Confusion between cybersecurity and cyber resilience	Educate decision-makers that these are complementary plans, with one aimed at prevention and the other aimed at recovery.
Communication gaps between boards/C-suites and CISOs, who often speak in technical terms	Speak in a language familiar to your audience – like real-world risk and likely damage.
A lack of ownership for a comprehensive cyber resilience plan	Prioritize cyber resilience by recognizing it as critical to protecting patient safety.

ELEMENTS OF A CYBER RESILIENCE PLAN

Even the best cybersecurity measures can't always stop an attack. In the event of a cyber incident, cyber resilience is your comprehensive strategy to withstand, adapt, and recover quickly.

Healthcare organizations that are proactive in assessing risks and defining mitigation strategies are well-positioned to protect sensitive data, keep patients safe, continue operations, and preserve their reputation. Evaluate all available sources of information to gain insight into something bad that might happen and what its impact may be. AI and machine learning – with human oversight – can help you sift through mountains of information as efficiently as possible.

Create a cross-functional steering committee. Who can oversee the preparedness effort? Do you have representation from emergency management, business continuity (clinical and support areas), IT disaster recovery, information security, and other risk disciplines that own key controls? Many healthcare organizations already have a Hospital Incident Command System (HICS) to respond to emergencies and continue patient care, which is a good a starting point for a cyberattack steering committee.

Identify critical patient and administrative services. What are your most important systems and services that, if disrupted, would cause significant damage to patient safety or your reputation? Consider systems and services that:

- Protect patients, visitors, and staff.
- Provide care for patients in residence (e.g. hospitals, rehab, long-term care).
- Deliver outpatient services.
- Execute critical back-office activities.
- Maintain certifications (e.g. trauma center or stroke-ready certification).

Map dependencies. What people, processes, technology, and data are connected to your critical patient and administrative services?

Build a response plan. What specific steps are needed to prevent further damage and recover systems and operations? Who needs to know what and when? Who is responsible for each step? Consider the following scenarios:

- Facility inaccessibility
- Staff unavailability
- Technology outage
- Equipment outage
- Patient surge
- Supplier/vendor loss
- Cyber or information security event

Test your plan. How well does your plan perform when tested with severe but plausible scenarios? Do you need to make adjustments? You may be able to simply integrate business continuity exercises into existing emergency management exercises. Consider including IT disaster recovery tests and cyber exercises within the program's scope.

Cyber Insurance: Today's Necessity

Escalating digital exposures – from data breaches, ransomware, phishing emails, and more – are making cyber insurance an essential investment for organizations of all sizes and in all industries.

Cyber insurance offers financial protection for damage caused by cyber incidents, such as expenses for investigations, credit monitoring, legal support, and other associated costs. It also can provide financial compensation for business interruption, loss of revenue, and system restoration. Cyber insurance can impart a sense of security by allowing the organization to concentrate on continuing operations amid an incident.

While insurers have made great strides in clarifying policy coverage and exclusions, costs are soaring. In response, many are reducing coverage limits and increasing premiums, which are rising by some 30%.

Demonstrating a comprehensive, tested cyber resilience plan can help optimize coverage and minimize premium costs.

HOW CYBER RESILIENCE INTERSECTS WITH OTHER RESILIENCE PLANS

Cyber resilience, cybersecurity, operational resilience, business continuity, crisis management, disaster recovery are often used interchangeably, but they each represent different facets of a business continuity and resilience strategy.

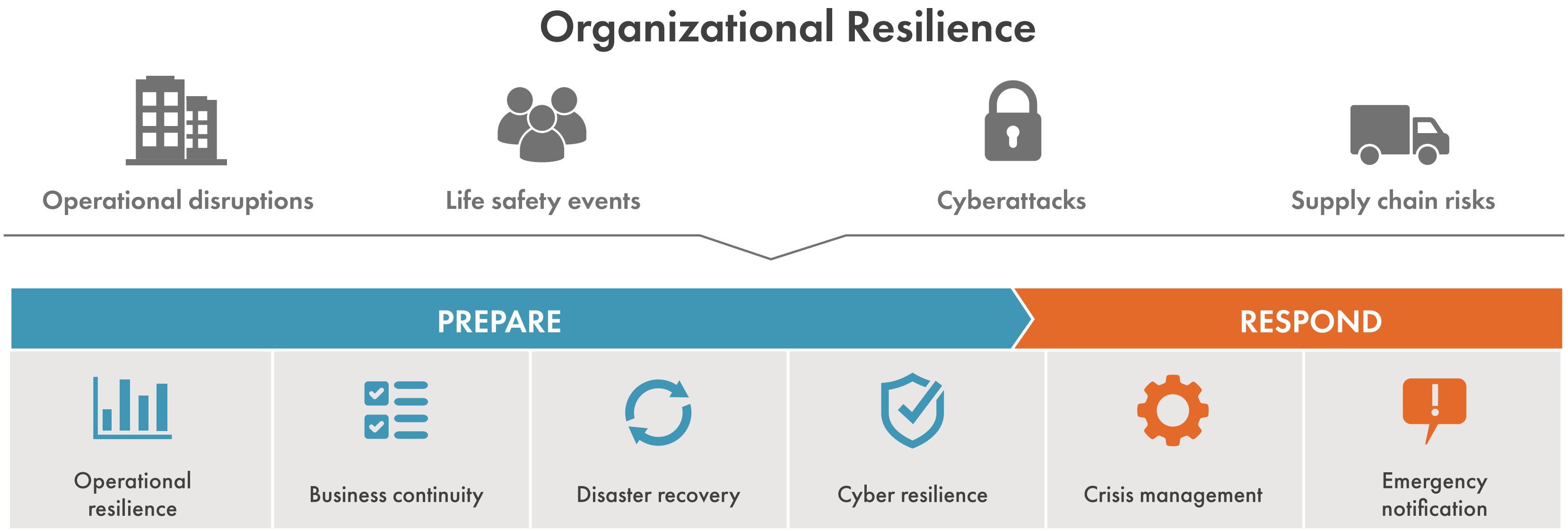
Operational resilience originated in the financial services industry and has expanded to other industries, including healthcare. It focuses on the ability to continue providing important patient and administrative services when experiencing severe disruption.

Business continuity focuses on preventing, responding to, and recovering activities and operations following the onset of a disruption.

Disaster recovery focuses on the recovery of IT services, applications, and data needed by the organization to administer care and protect patients.

Crisis management mobilizes at the onset of a disruptive incident and helps leaders manage the response to minimize impact through communications and recovery.

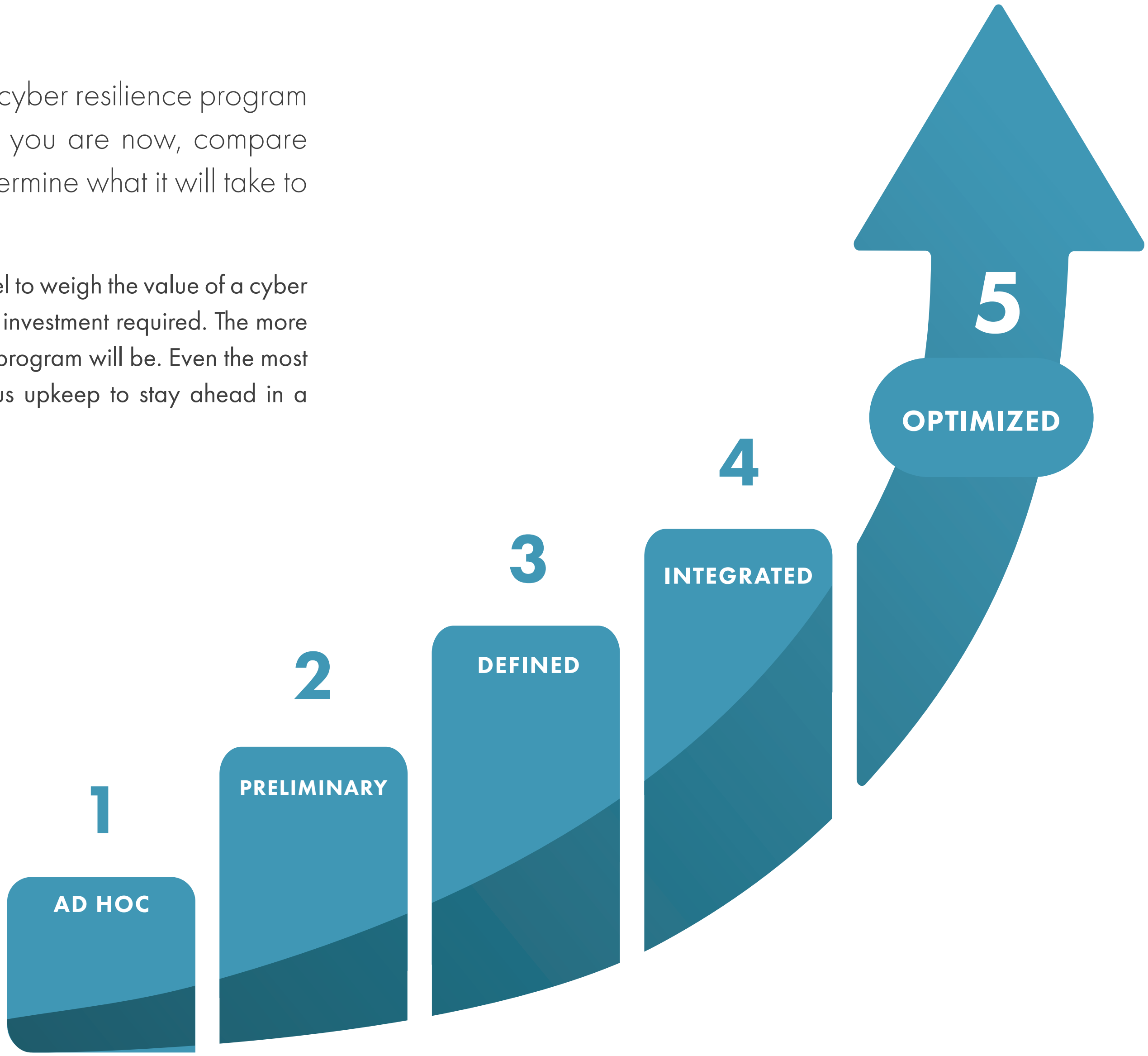
Cyber resilience focuses on continuing and recovering operations when affected by a cyberattack caused by malware, ransomware, or inappropriate/unauthorized access leading to a data breach or downtime.



HOW TO ASSESS YOUR CYBER RESILIENCE MATURITY

Using a maturity model to assess your cyber resilience program is an excellent way to identify where you are now, compare that to where you want to be, and determine what it will take to get there.

Apply the analysis on your current maturity level to weigh the value of a cyber resilience program, the cost of failure, and the investment required. The more mature your program, the more effective your program will be. Even the most mature programs, however, require continuous upkeep to stay ahead in a constantly changing world.



MATURITY LEVEL | DESCRIPTION	KEY ATTRIBUTES
1 AD HOC	The management of cyber resilience is undocumented, in flux, reactive, and depends on individual heroics. Roles, responsibilities, processes, and plans are not clearly defined. Cyber resilience efforts mainly focus on technical controls and understate a broader organizational approach.
2 PRELIMINARY	Cyber resilience is defined in different ways and managed in silos. Efforts predominately focus on prevention and security rather than preparedness and response. Prevention and security overemphasize technical solutions and tools. Process discipline is unlikely to be rigorous and is only lightly defined. Roles and responsibilities are limited to program administrators or technical staff.
3 DEFINED	A common cyber resilience framework is in place and connected to key risk disciplines, such as the business continuity program, operational risk, and third-party risk management. An organization-wide view of cyber resilience is provided to executive leadership and the board. Efforts include a combination of technical, administrative, and physical controls. Roles, responsibilities, and response plans are defined, documented, and practiced. Plans are not limited to technical response and recovery.
4 INTEGRATED	Cyber resilience activities are coordinated across the organization, including relevant risk disciplines and business/operational areas. Risk disciplines share practices and resources, such as using common business continuity management tools and processes to enable enterprise-wide cyber-risk monitoring, measurement, and reporting. The organization has considered which threat scenarios would be most impactful, and these have been incorporated into scenario planning and other techniques, such as exercising. Recovery processes, including alternate processes and manual capabilities, are tested regularly and coordinated to help manage the consequences associated with a cyber disruption. Discussion of cyber resilience at executive committee and board levels is separate from the discussion of strategy and performance.
5 OPTIMIZED	Cyber resilience concepts are integrated into the broader enterprise strategy, including balancing cyber resilience with organizational initiatives, product or service development, and the strategic direction of the organization. Cyber and operational risk has moved beyond consideration as solely a cost center and is embedded in strategic planning, capital allocation, and other processes. The organization has a culture of resilience that is embedded in tactical decision-making. Risks and vulnerabilities that threaten the ability to recover are actioned at the appropriate level and reported regularly to management and the board. The organization has early-warning systems in place – threat and controls monitoring – to not only identify technical attacks, but to alert decision-makers if KRIs or other risk indicators are breached. The organization considers the broader geopolitical and economic landscape to identify threats that could impact the enterprise or require additional planning or resourcing. Business continuity and cyber-response strategies and plans are validated at all levels of the organization.

HOW TO START BUILDING A CYBER RESILIENCE PLAN

For cyber resilience to be successful, it must be an enterprise-wide strategy, led by executives, and embedded into every level of the organization, as well as partners, patient care, and suppliers.

No one is immune to cybercrime. But being properly prepared can significantly reduce the impact on your organization. Here's where to start.

Change the conversation. Cyber resilience is not simply an IT issue. CISOs, CTOs, COOs, and the like will naturally be involved. But knowledge, data, systems, and processes are increasingly integrated across the enterprise – and everyone from the C-suite on down needs to participate in limiting the impact of a disruption.

Getting support from the top is particularly important to drive strategy and secure investment. Leave the tech jargon behind and frame the issue in more familiar quantitative financial terms – like loss exposure and likelihood of occurrence – to illustrate the size of the issue and inform strategy discussions.

Formalize the cyber resilience role. While still relatively rare, the position of chief cyber resilience officer is growing. The specific job title, however, is much less important than having someone dedicated to resilience who has the visibility and influence to ensure positive outcomes. Someone needs to be accountable for looking at the business – systems, third parties, locations, threats – and understanding the impact on patient safety, staff, data, technology, and resources.

Develop your response plan. Create a step-by-step plan that specifies actions, responsibilities, and timing to contain the damage, avoid costly repairs, and protect community trust.

- **Incident response.** The longer a cyber incident goes undetected, the more damaging it can be. Have a plan to quickly detect attacks and jump into action.
- **Communications.** Who should be notified, when, and with what information? Include all internal stakeholders, external suppliers/partners – and don't forget about regulatory reporting requirements and other legal obligations.
- **Restoration of critical patient care and administrative functions.** What do you need to do to return to normal operations after a breach/incident? This is a good opportunity to streamline and standardize processes across the organization and establish a strong governance structure.

Test and train. Put leadership, the technical team, and other stakeholders through severe but plausible scenarios to test the strength of your plan, identify opportunities for improvement, and develop muscle memory to speed response in the case of a real-life event. And feed those learnings back to continuously refine your plan.

But don't stop there. Achieving cyber resilience takes an all-hands-on-deck mentality. Just one vendor with weak security can expose you to substantial damage. Educate staff, suppliers, contractors, and partners on what to do if they spot an irregularity. With more eyes and ears on the lookout for a problem, you are more likely to respond faster and contain the fallout.

Get going – now. Cyber risks are accelerating – and the ability of cybercriminals to evade strengthened defenses adds gasoline to the fire. Taking your eye off the ball even for a second can leave you vulnerable to devastating breaches and disruptions.

Protecting patients requires diligent planning, testing, training, investing, and allocating resources to stay a step ahead. Cyber resilience is now a board-level issue – and when done right can become a critical source of value to the organization.

ABOUT RISKONNECT

Riskonnect is the leading integrated risk management software solution provider. Our technology empowers organizations with the ability to anticipate, manage, and respond in real-time to strategic and operational risks across the extended enterprise.

More than 2,500 customers across six continents use our unique risk-correlation technology to gain previously unattainable insights that deliver better business outcomes. Riskonnect has more than 1,000 risk management experts in the Americas, Europe, and Asia.

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