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AMERICAN COLLEGE OF CLINICAL ENGINEERING

The Single Source of Truth: How Biomed and IT Security Deliver Safer Patient Outcomes Together

January 18, 2022

ACCE gratefully acknowledges the sponsorship of this webinar by

About the moderator

Martin Poulin, P.Eng., FCMBES| Director, Biomedical Engineering

island health

Director of Biomedical Engineering for Island Health, Victoria, BC, on the west coast of Canada.

23+ years health technology management.

5 years in the medical device development industry in Vancouver.

Master of Engineering in Clinical Engineering from UBC.

Past President of CMBES.

Member, ACCE Education Committee.

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Logistics

- All attendees have their microphones muted during the presentation.
- Questions to the panelists must be submitted via the "**Q&A**" feature (not chat) in Zoom at any time.
- If there is any urgent issue, please use the "chat" feature to communicate with the panelists.
- We will try to ask Amir and Shannon to answer questions not addressed during the webinar and post them to ACCE website.
- Please remember to complete the webinar evaluation after attending. A link will be provided at the end.

About the speaker

- Over 15+ years in IoT, cybersecurity, information security and enterprise software solutions.
- Holds a MBA, and BSc. Degree in Electrical and Computer Engineering and is working towards PhD in Organizational Leadership.

Amir Vashkover
VP, Business Development & Strategic Alliances

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About the speaker

Shannon P. Lavack
Senior Project Manager, HTM IT

sodexo

- Sodexo employee for 16+ years
- Bachelor degrees: Computer Science and Chemistry
- Healthcare experience 31+ years
- Medical Information Technology experience 26+ years
- Healthcare Technology experience 16+ years
- Medical device security over 6 years

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Session Description

Biomedical engineers responsible for healthcare technology management (HTM) make significant decisions that affect a hospital's cyber security posture. Whether it's procuring new medical devices, managing device end-of-life, or connecting devices to the network, it's critical that any decisions they make consider device security, data integrity, and patient safety.

In this webinar, we'll discuss some of the challenges facing biomedical engineers – from procuring devices that have potential vulnerabilities to lack of device visibility and centralized management – and the security team should support their initiatives and integrate them into their overall cyber security strategy.

Attendees will learn:

- ✓ Best practices for managing hyper-connected environments.
- ✓ How a full discovery and profile of all the connected devices in the network (medical devices, IoT, Workstations, Mobile, servers) provide critical information for the entire organization.
- ✓ How to strategically improve the security posture of connected assets.

Agenda

- Understanding Both Worlds
- Best practices for managing hyper-connected environments
- Looking forward – a glimpse into the future

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- **Understanding Both Worlds**
- Best practices for managing hyper-connected environments
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BioMed and Cyber Security Today

Typically, different organizations
Often, different objectives

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Biomedical Engineering: By Now, You Know This

HTM Lifecycle Management Must Include Medical Device Security

Challenges:	❑ Time and resource required to manage assets ❑ Lack of experience with security as part of lifecycle management ❑ Not enough context/information for each asset
Seeks:	**Automate Inventory Management** Find what you need quickly - enriched with critical data, patching recommendations, and location info. **Maximize Device Utilization and Efficiency** Optimize usage across device, lifecycle, and allocation decisions (e.g., locate underutilized infusion pumps) **Lower TCO and Annual Maintenance Costs** Streamline maintenance schedules to avoid unplanned downtime and lost availability.

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CISO/IT Security

IT Security Teams Must Protect Critical Medical Assets

Challenges:	❑ Complexity and budget constraints ❑ Lack of security tools designed for medical devices ❑ Escalating attacks on healthcare data
Seeks:	**Scalable and Easy** Works across multiple network architectures (centralized, distributed, segmented) enabling scale, easy install, and optimal efficiency. **End-to-End Risk Mitigation** Zero-trust security model enables micro-segmentation based on asset visibility and trusted relationships. **Leverages Existing Infrastructure** CyberMDX integrates with diverse third-party products across IT systems and network solutions.

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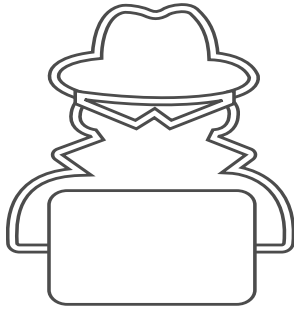
The Threats for Both Teams are the Same

It's a Patient Safety Imperative.

Medical devices can stop working or malfunction

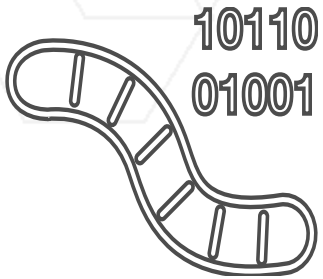
It's a Threat to Data Security.

Healthcare data can be stolen and sold



It's a Huge Risk to Financials.

Hostile takeovers can hold you for ransom



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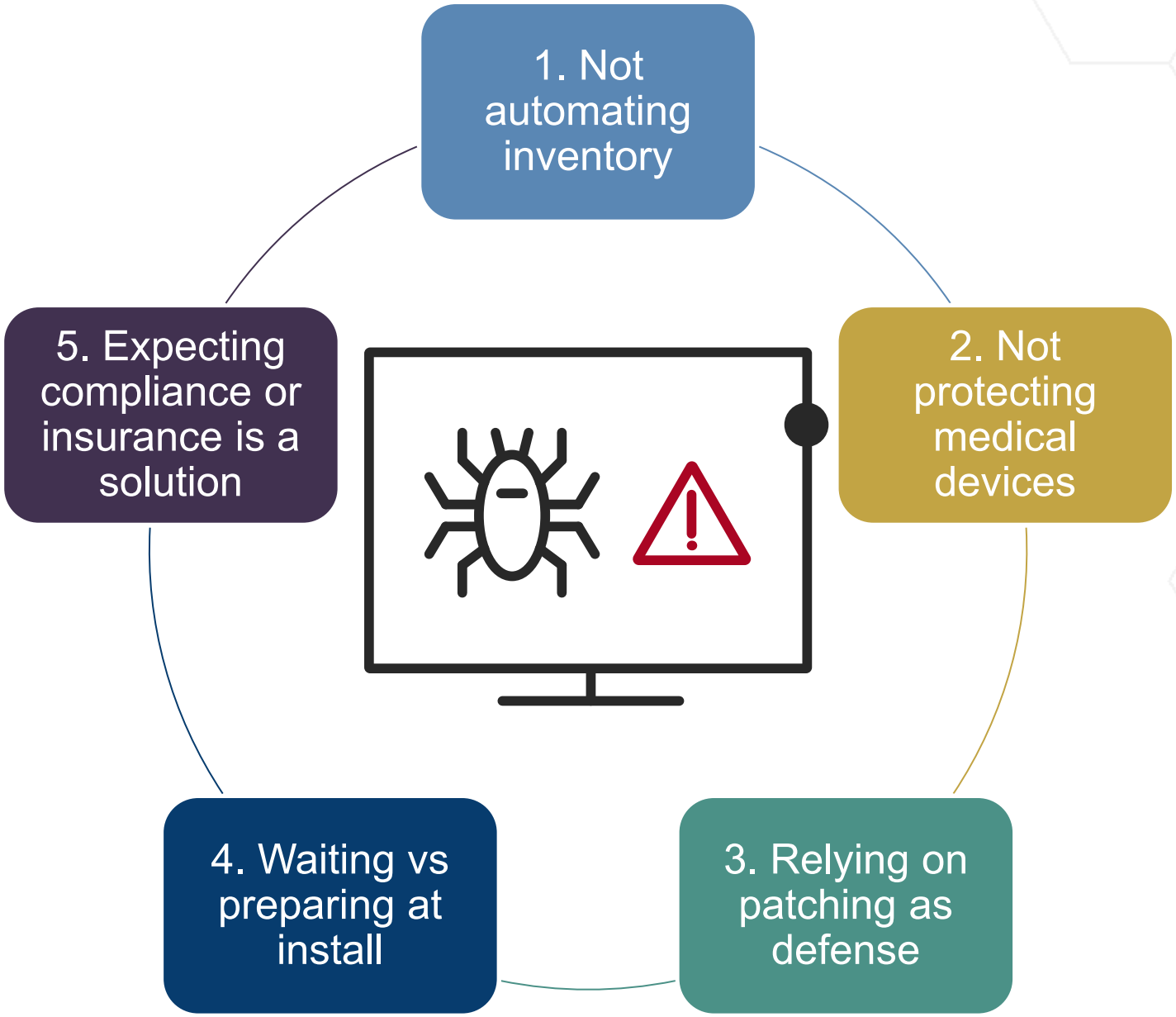

Top 5 GAPs

of Healthcare Security

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Agenda

- Understanding Both Worlds
- **Best practices for managing hyper-connected environments**
- Looking forward – a glimpse into the future

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How to Address the Gaps

5 BEST Practice Recommendations

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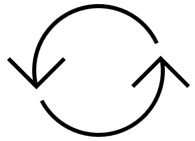
Best Practice 1: Create a Live Inventory

Enabler of Other Use Cases

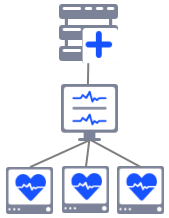
- On-going cyber risk management
- FDA compliance
- Software compliance
- Incident response
- Device tracking
- Daily service routines



Live, Continuously up to date

Complete

Accurate and security-aware



Provide Clinical Context

Drive Cyber risk management

Integrated

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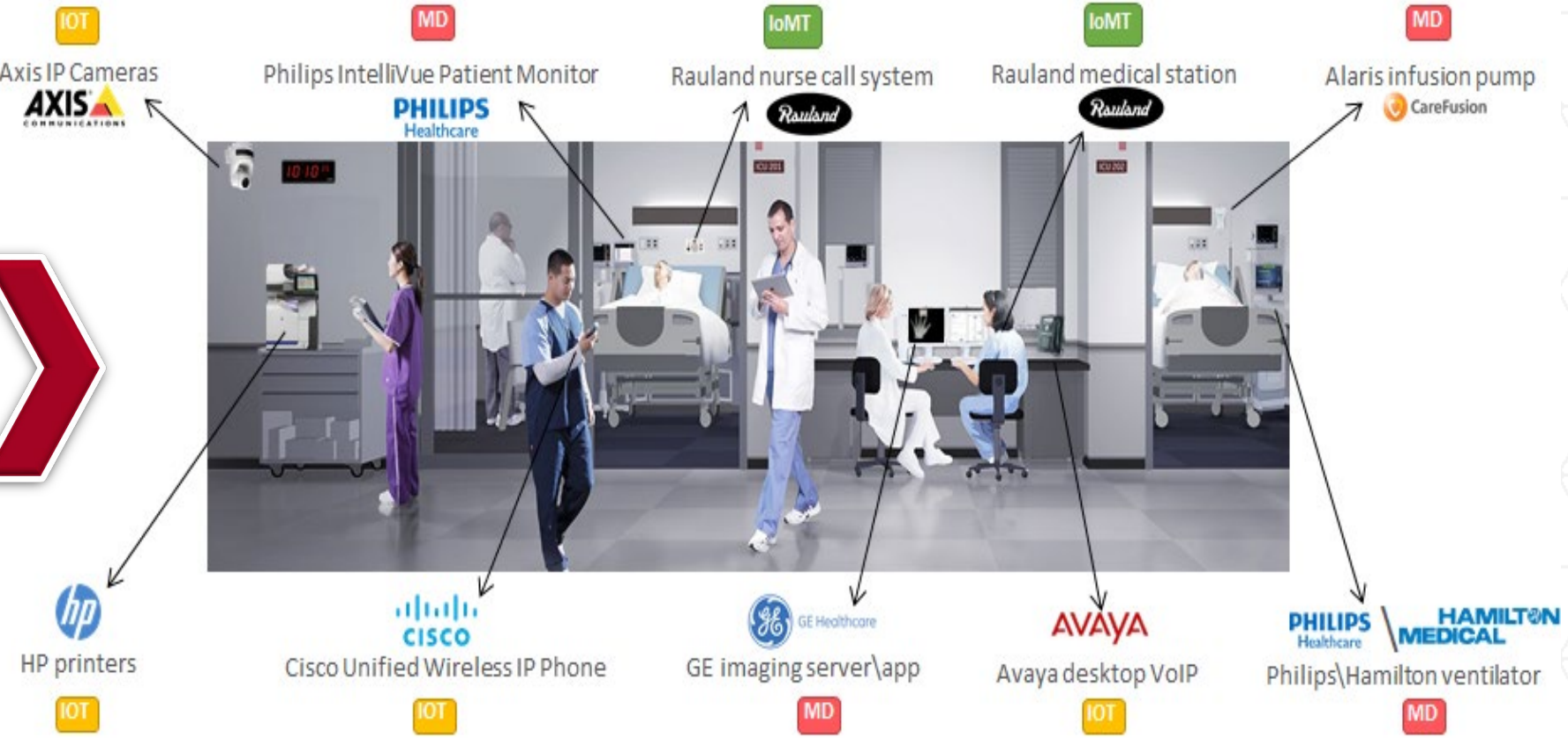
Without One, Manual Inventory Fails

Yesterday



Modern ICU ecosystem

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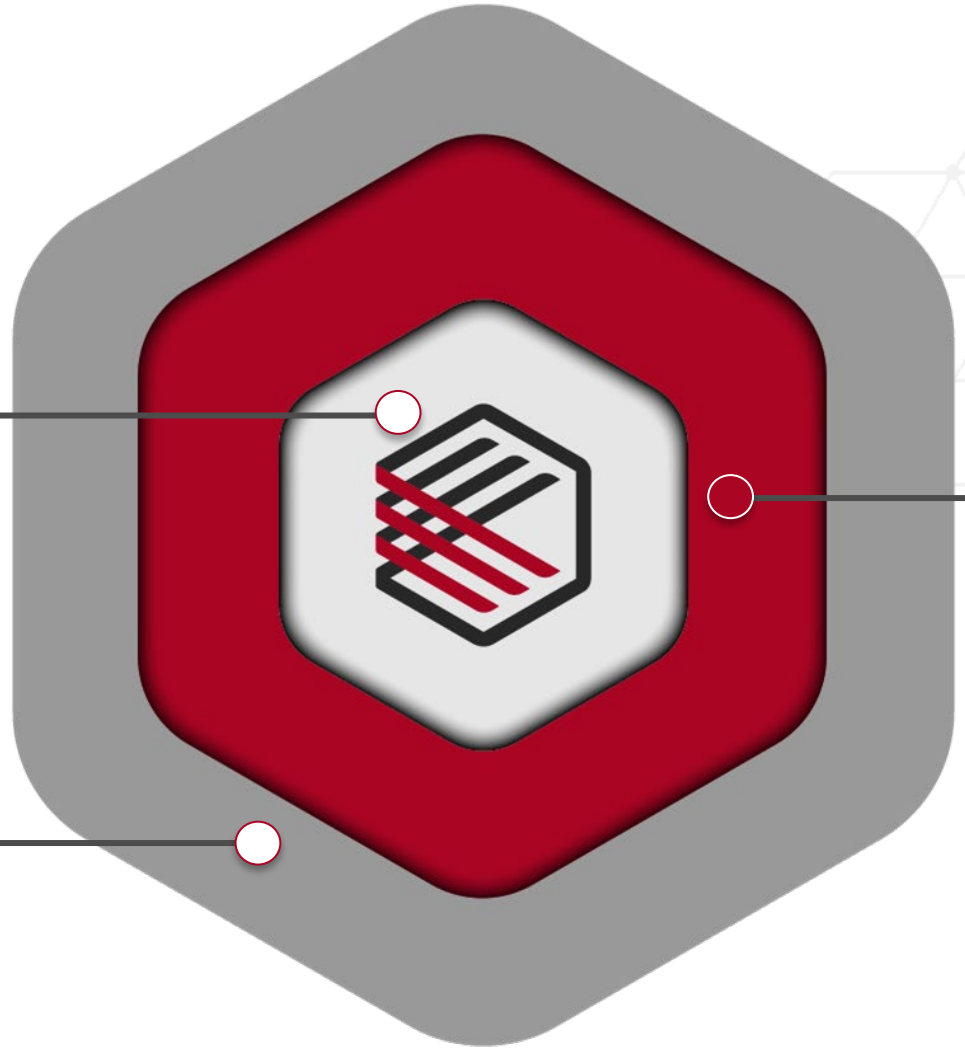
Best Practice 2: Intelligently Mitigate Risks

On-Device Remediation

- Configuration
- Patching
- AV/Agent

External Access Control

- Vendor Access Control
- Block Internet



Ongoing
Device-Centric
Risk Management

Network-based Mitigation

Allowlist Policy
Blocklist Policy

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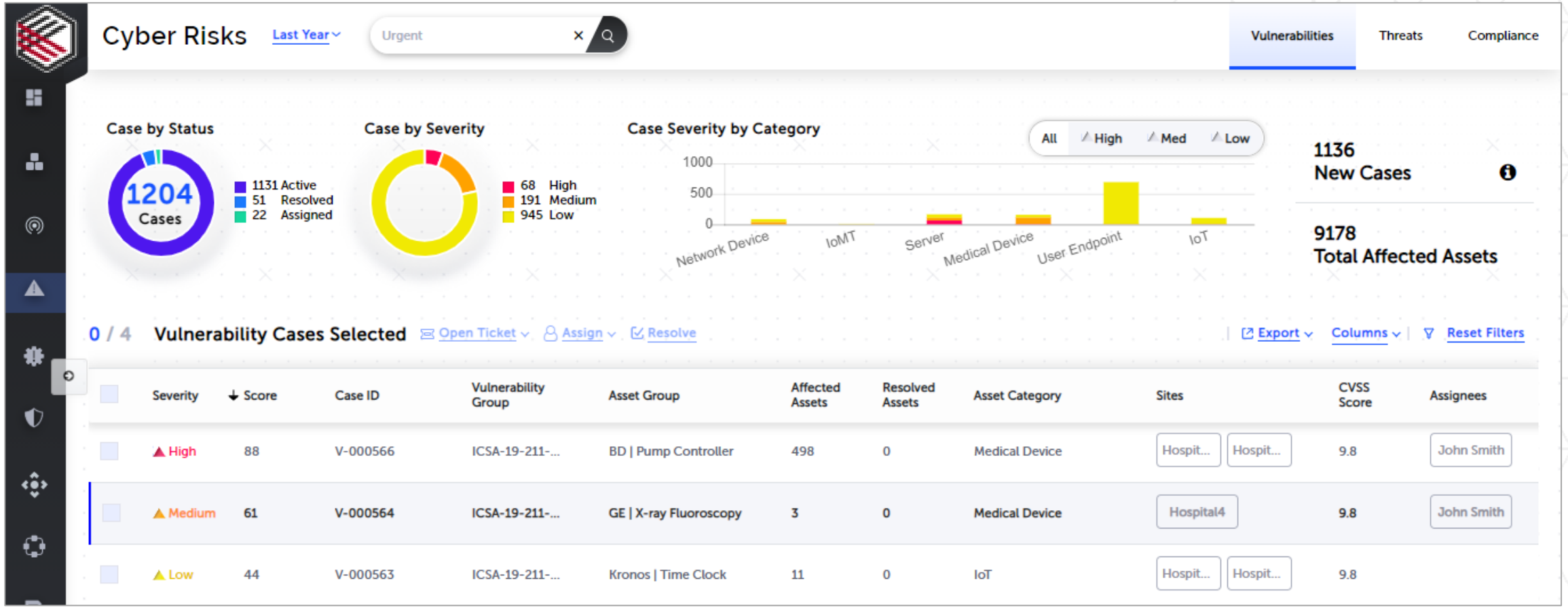
Best Practice 3: Keep tabs on new vulnerabilities



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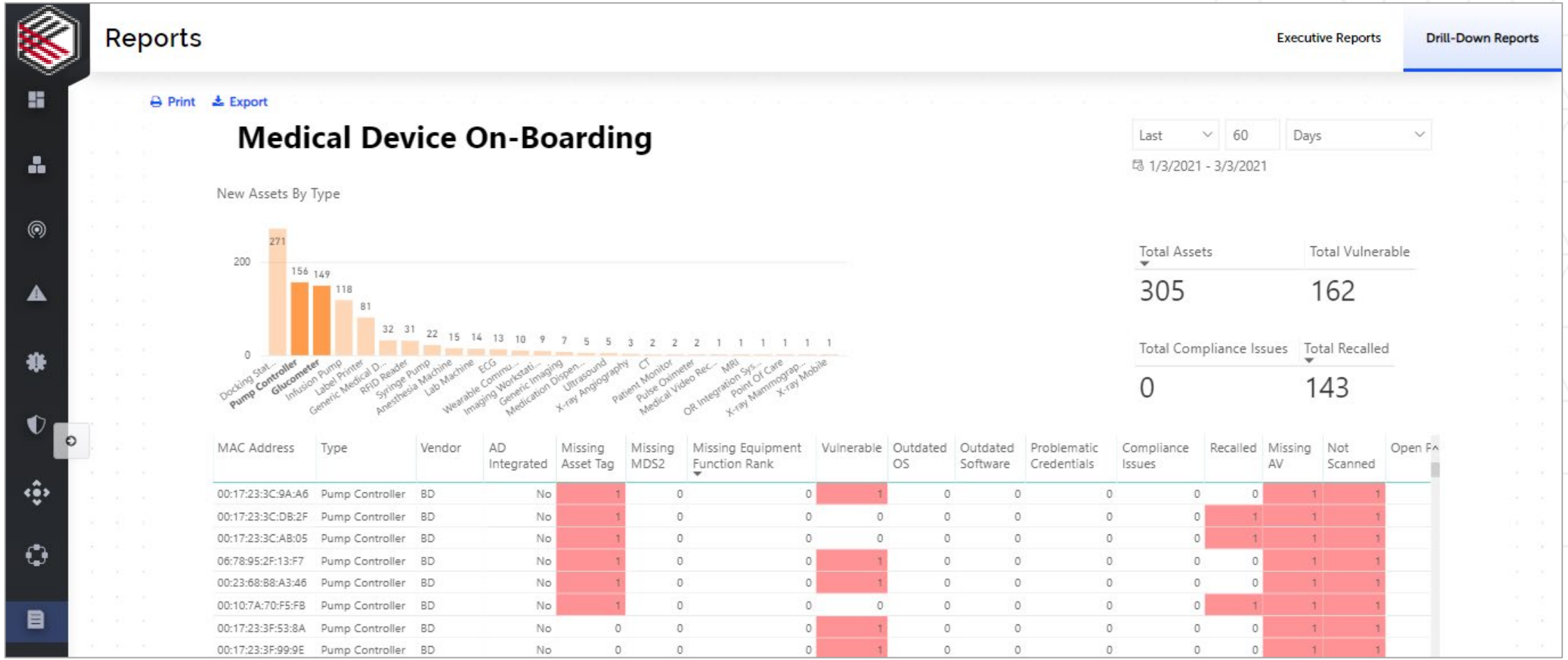
Best Practice 4: Onboard With Compliance



MAC Address	Type	Vendor	AD Integrated	Missing Asset Tag	Missing MDS2	Missing Equipment Function Rank	Vulnerable	Outdated OS	Outdated Software	Problematic Credentials	Compliance Issues	Recalled	Missing AV	Not Scanned	Open F
00:17:23:3C:9A:A6	Pump Controller	BD	No	1	0	0	1	0	0	0	0	0	1	1	
00:17:23:3C:DB:2F	Pump Controller	BD	No	1	0	0	0	0	0	0	0	1	1	1	
00:17:23:3C:AB:05	Pump Controller	BD	No	1	0	0	0	0	0	0	0	1	1	1	
06:78:95:2F:13:F7	Pump Controller	BD	No	1	0	0	1	0	0	0	0	0	1	1	
00:23:68:B8:A3:46	Pump Controller	BD	No	1	0	0	1	0	0	0	0	0	1	1	
00:10:7A:70:F5:FB	Pump Controller	BD	No	1	0	0	0	0	0	0	0	1	1	1	
00:17:23:3F:53:8A	Pump Controller	BD	No	0	0	0	1	0	0	0	0	0	1	1	
00:17:23:3F:99:9E	Pump Controller	BD	No	0	0	0	1	0	0	0	0	0	1	1	

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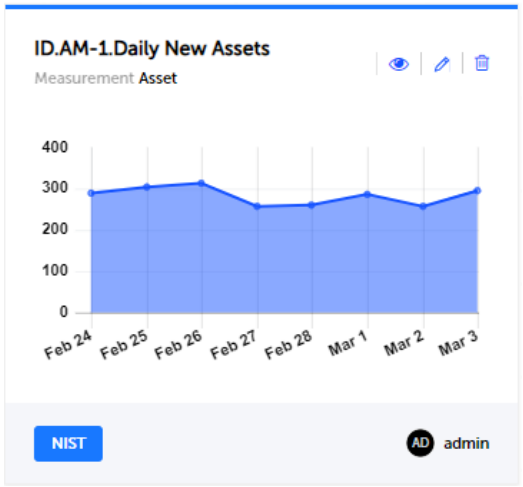
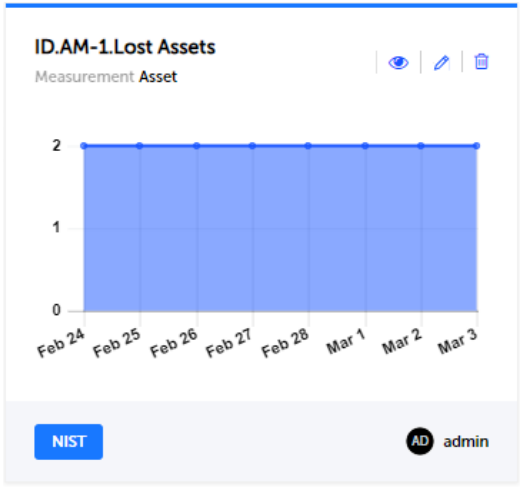
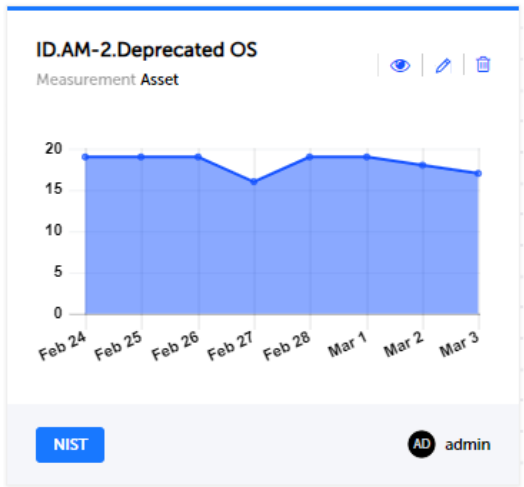
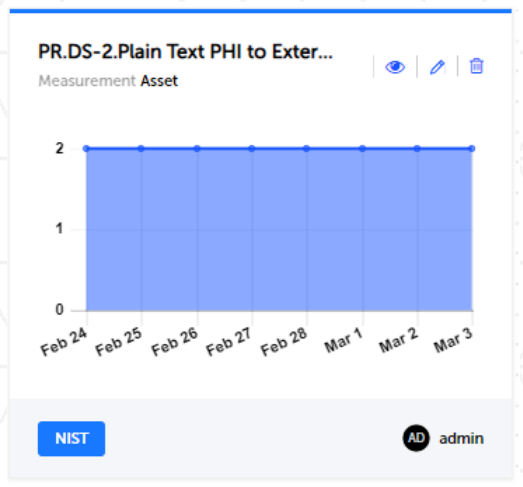
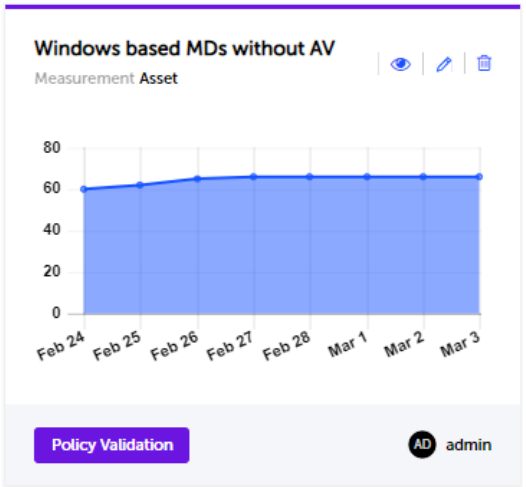
Best Practice 5: Governance With Compliance

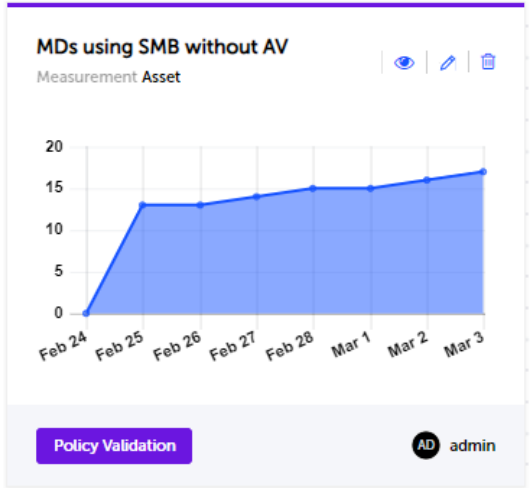


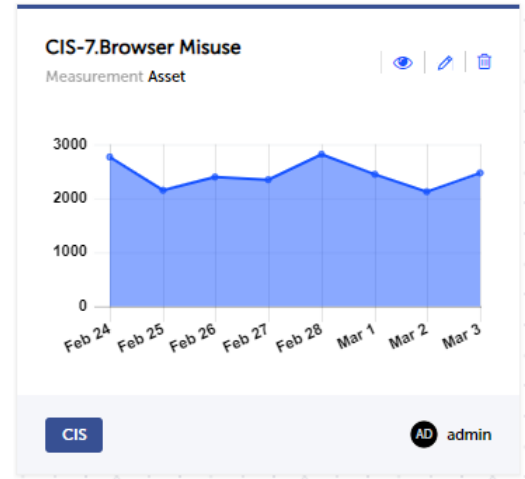


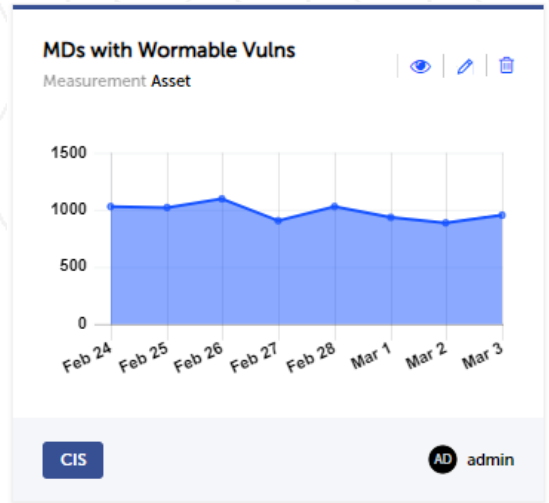












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- **Looking forward – a glimpse into the future**

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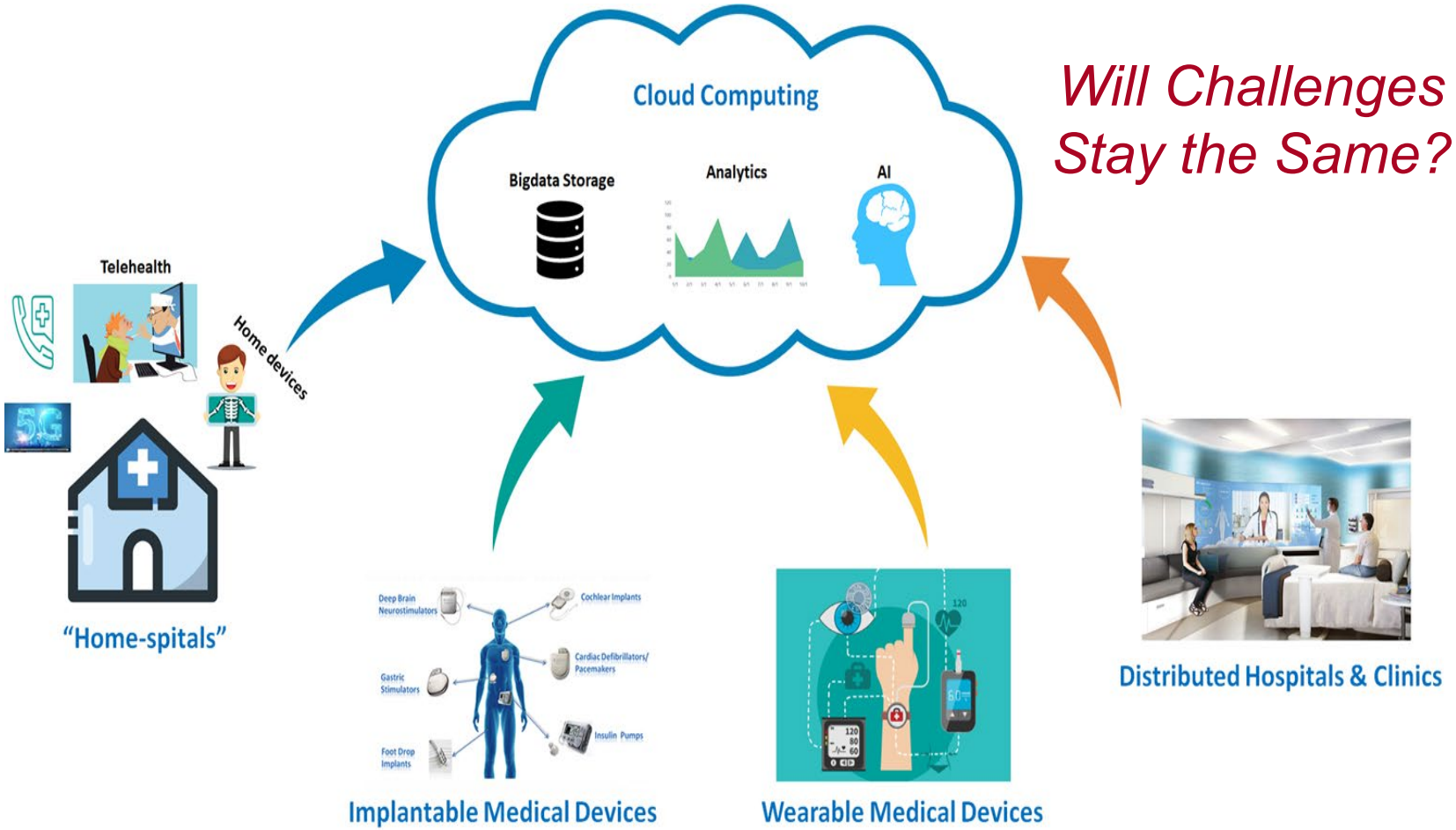
Major upcoming healthcare changes



Will Challenges Stay the Same?

Hospital EMRs & Personal Medical Device Data Interoperability

- Inventory
- Risk Management
- Compliance
- Operational Efficiency

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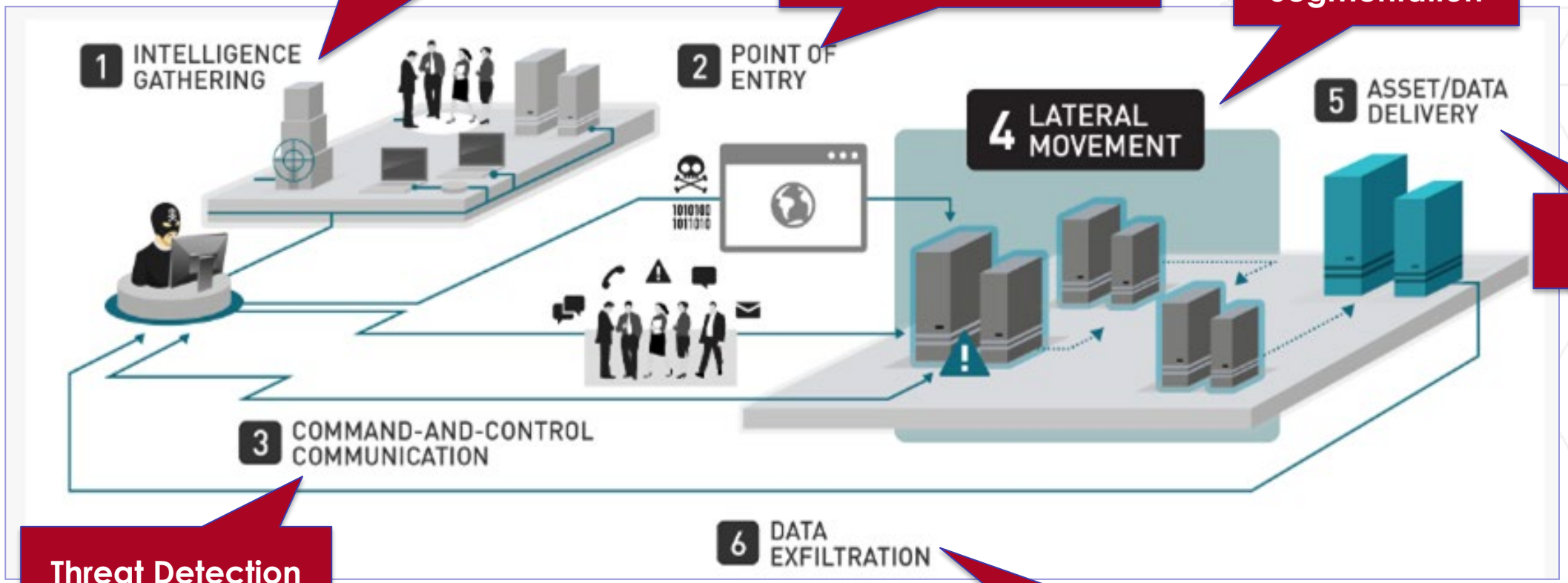
Strategy: Create Layers of Protection



Asset Management and Inventory

Concise Risk Assessment and Security Insights

Network Segmentation

Threat Detection

Threat Detection

Incident Response Playbook

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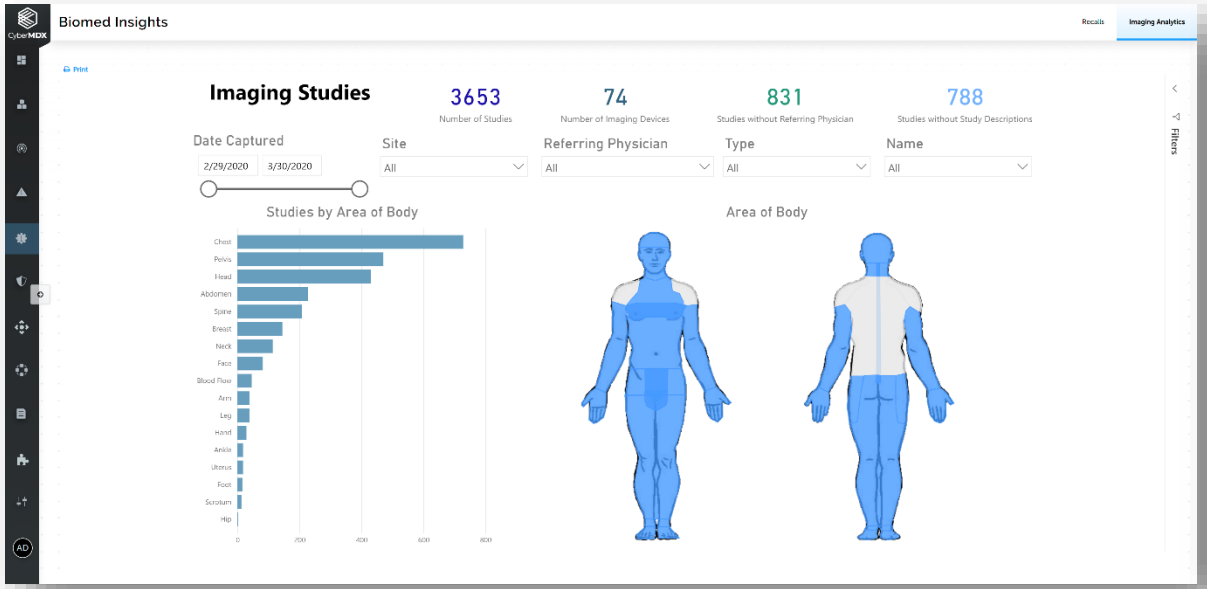
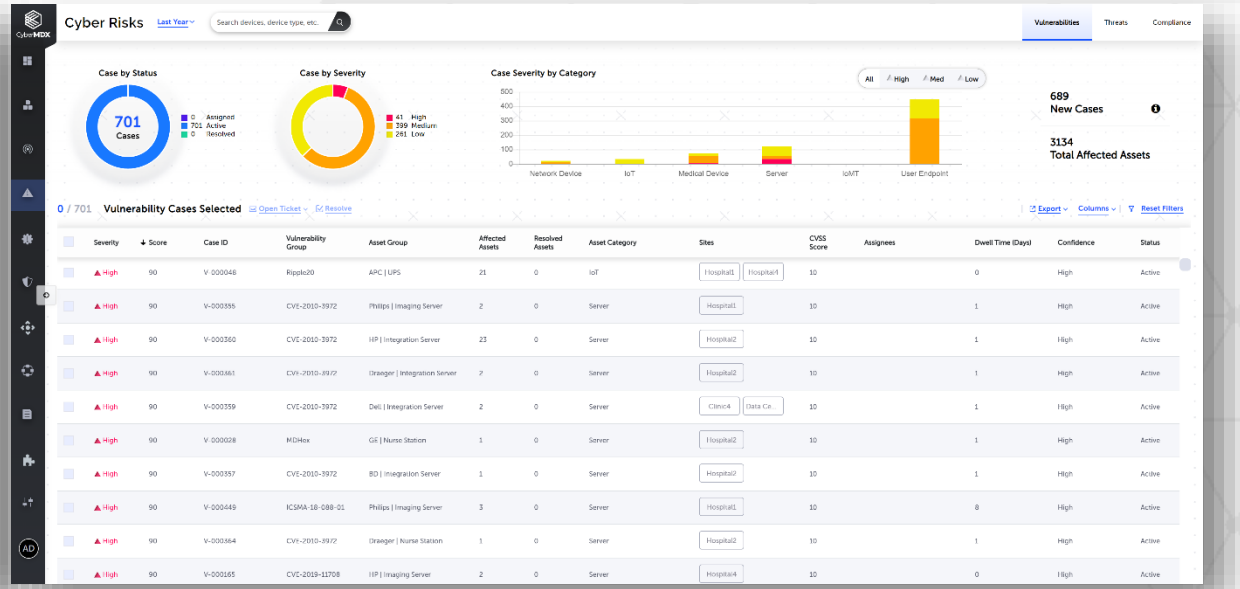
BioMed and Cyber Security Together

A single source of truth that breaks down siloes





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Get in touch!

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Questions

Thank You

Please complete the online evaluation at
https://www.surveymonkey.com/r/01-18-22_evaluation

Or scan this QR code to complete survey:

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