

CareForum 2022

The WellSky® Conference

Best practices for increasing interoperability and preventing data vulnerabilities

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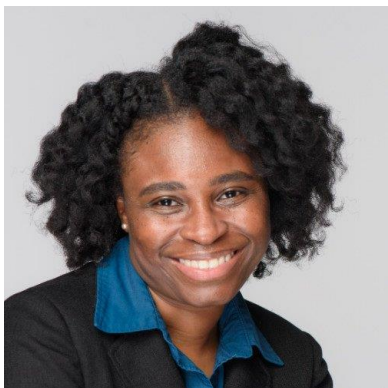
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Today's speakers



Mitze Amoroso
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Senior Vice President, Chief
Information Officer
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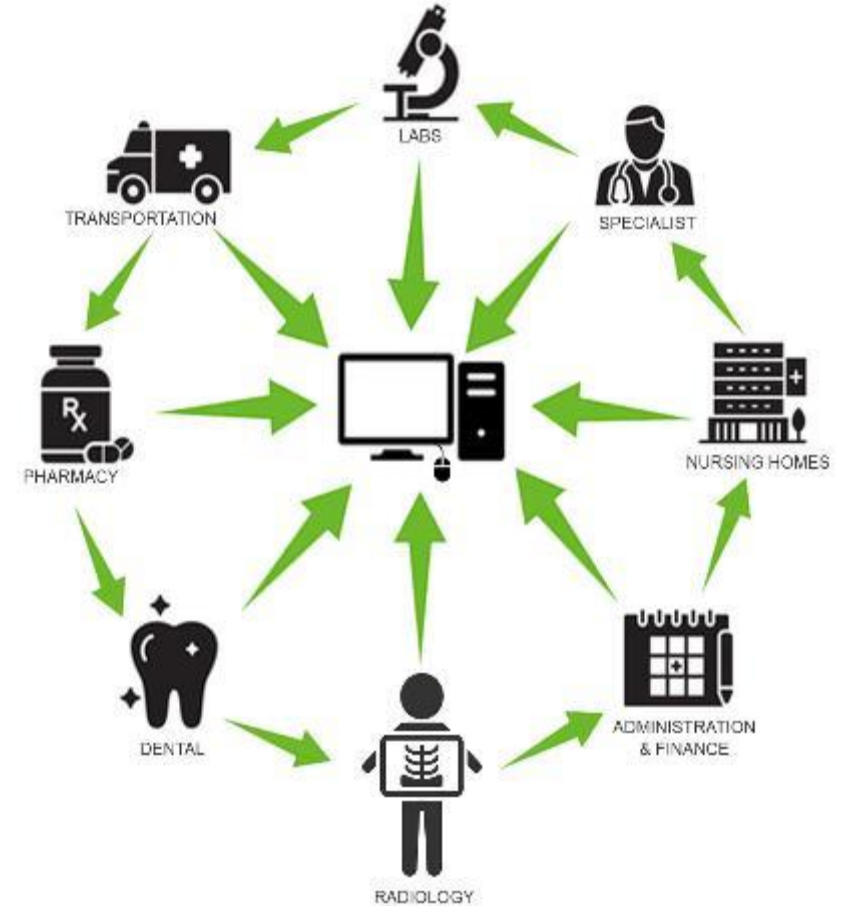


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Agenda

- Current State of Healthcare and their Systems
- What is Interoperability?
- Types of Interoperability
- Benefits of Interoperability in Healthcare
- Challenges of Interoperability in Healthcare
- Future of Interoperability in Healthcare
- Managing Vulnerabilities
- Consideration



Current state of electronic medical records

Current state of healthcare and their systems

- Staffing challenges
- Inefficient Electronic Medical Records
 - Too much documentation needed for regulatory purposes
 - Inefficient system designs, too many clicks to complete the documentation. (“Death by Clicks”)
 - Duplicate data entry in multiple systems
 - Lack of system workflows to help the clinicians do their jobs
- Outdated technology

What is interoperability?

What is interoperability?

in·ter·op·er·a·bil·i·ty

/,ɪn(t)ər,əp(ə)rə'bilədē/

Learn to pronounce

noun

1. the ability of computer systems or software to exchange and make use of information.

"interoperability between devices made by different manufacturers"

• the ability of military equipment or groups to operate in conjunction with each other.

"staff believe interoperability between forces is crucial to effectiveness" www.dictionary.com, oxford languages

- “Interoperability is the ability of two or more systems to exchange health information and use the information once it is received” Healthit.gov (2013)
- “It is the ability of different information systems, devices and applications (systems to access, exchange, integrate and cooperatively use data in a coordinated manner, within and across organizations, regional and national boundaries, to provide timely, and seamless portability of information and optimize the health of individuals and populations globally), www.HIMSS.org/resources/interoperability-healthcare
- “Interoperability refers to the basic ability of different computerized products or systems to readily connect and exchange information with one another, in either implementation or access, without restriction. www.Heavy.ai/technical-glossary/interoperability

Types of interoperability

Types of interoperability connection

Foundational (Level 1)

- “Establishes the inter-connectivity requirements needed for One System or Application to securely communicate data to and receive data from another.”

Semantic (Level 3)

- “Provides for common underlying models and codification of data including the use of data elements with standardized definitions from publicly available value sets and coding vocabularies, providing shared understanding and meaning to the user.”

Structural (Level 2)

- The sharing of data that requires a defined data set to pass between systems without any alteration of the data or “ defines the format, syntax and organization of data exchange including at the data field level for interpretation
- Examples of structural interoperability are HL7 Interfaces

Organizational (Level 4)

- “Includes governance, policy, social, legal and organizational considerations to facilitate the secure, seamless and timely communication and use of data both within and between organizations, entities and individuals. These components enable shared consent, trust and integrated end user processes and workflows.”

Interoperability content standards

- Consolidated CDA
- HL7 Version 2.x
- HL7 Version 3, Clinical Document Architecture (CDA)

Interoperability transport standards

- Digital Imaging and Communications in Medicine (DICOM)
- Direct Standard
- Fast Healthcare Interoperability Resources (FHIR)
- Integrating the Healthcare Enterprise (IHE)
- Good o'l reliable CSV Import



Benefits of interoperability in healthcare

Benefits of interoperability in healthcare

- Improving quality of care and patient experience
- Informed Decision making
- Improved Workflows
- Reducing the costs of care
- Protecting Patient Information
- Improving Staff Productivity
 - Reducing clinician burnout
- Exchanging Information with Other Systems

Challenges of interoperability in healthcare

- Inconsistent information amongst systems
- Vendor resistance to share data
- Too many standards
- Too much data
- Lack of skills and resources
- Questionable data exchange practices
- Difficult to manage

Future of interoperability

Future

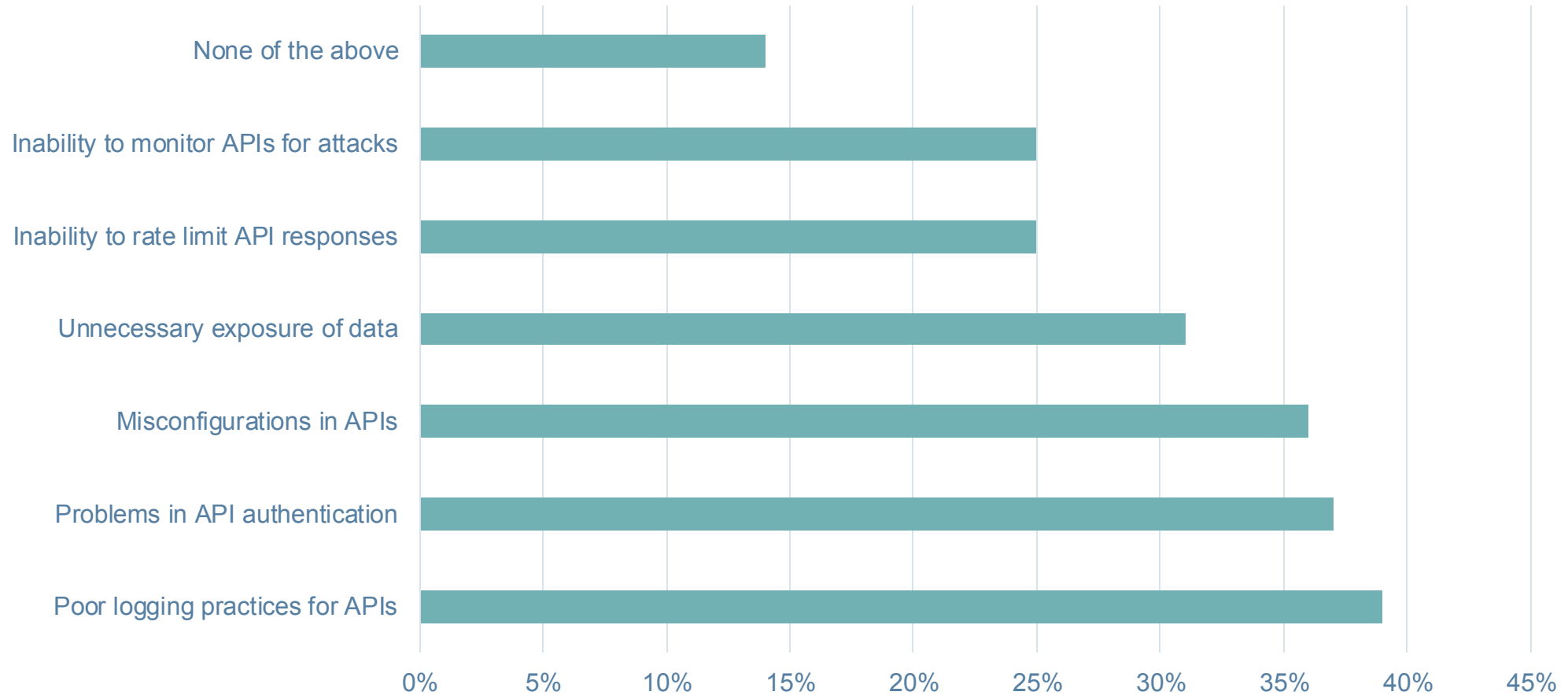
- Application Programming Interface (API)
- Artificial Intelligence (AI), BOTS?
- Block chain



Managing vulnerabilities

API Vulnerability

API Security Problems Past 12 Months



Technology vulnerabilities

- API vulnerabilities can be difficult to manage due to vendor dependencies
- Systems that cannot be made interoperable

Human vulnerabilities

- Unverified scope of work
- Need to review the interfaces for failures
- Constantly test the interfaces after updates

Considerations

Considerations

- Sharing Information
- Consent
 - Exceptions
- Data Blocking
 - Patient Care Considerations



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Thank you.

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