HIS Strategic Focus 2024 - 2028

Angela O’Banion | Chief Information Officer

COOK COUNTY HEALTH

Agenda

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- Introductions
- Current State
  - HIS Overview
  - SWOT
- Technology to Meet the Demand: Strategic Focus Areas
  - ✓Leveraging AI
  - ✓Bridging the Digital Divide
  - ✓Building a High-Maturity Security Program at Scale
  - ✓Full Speed Ahead with Application Modernization
  - ✓Best In Class IT Standards for Excellence

HIS Team

Introductions

HIS Leaders for Today's Focus Areas

- Angela O'Banion, Chief Information Officer, Presenting
- Angela Smith, Associate Chief Information Officer
- Benjamin Laughton, Chief Nursing Informatics Officer
- Chris Caudill, Chief Medical Information Officer
- Jerry Pagell, Information Security Officer
- Kesha Love, Director of IT Interoperability

Current State-Briefly

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An Integrated Health Information Ecosystem

Current State

HIS Scope

We manage the technology backbone for **of Cook County Health** - from hospitals and clinics to public health, correctional health, and the health plan. Over 1.4 million tech transactions a day flow through our systems.

Core Objectives

- 24/7 Clinician Access – Seamless, confidential, real-time EMR access
- Patient Safety & Compliance - Privacy, and regulatory excellence
- Systemwide Performance – Measurable improvements in quality, access, and outcomes
- Empowered Decision-Making – Real-time data tools for providers and researchers
- Partner with Cook County Bureau of Technology

Strategic SWOT

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Strengths (internal factors-attributes)

- High performing HIS team-includes Physicians and Nurses
- High compliance with business and regulatory requirements
- Integrated EMR across CCH
- Alignment of technology to CCH business needs

Weaknesses (internal factors-hinder)

- Time to implementation
- Limited resources in a growing industry
- Interoperability challenges with surrounding hospitals
- Legacy applications

Opportunities (external factors-leverage)

- Generative AI/Predictive Analytics
- Telehealth
- Internet of Things (IoT)
- Innovation in Technology

Threats (external factors-problematic)

- Cybersecurity
- Competition for IT Staff
- Disruptive Innovation

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Technology to Meet the Demands

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2024-2028 HIS Strategic Objectives

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Strategic Focus Areas

I. Leveraging AI

- Leverage current EMR AI solutions
- Issue an EMR RFP to fully leverage artificial intelligence
- Improve productivity & efficiency

II. Bridging the Digital Divide

- Tele & virtual care e-sitter, ExpressCare, Improved Patient Portal, Self Scheduling, etc.

III. Building a High-Maturity Security Program at Scale

- National Institute of Standards in Technology Risk Management Framework
- Redundant Disaster recovery & business systems

IV. Full Speed Ahead with Application Modernization inclusive of AI & cloud strategies

V. Be…Always Best in Class. According to IT Department Defined Standards for Excellence

AI Documentation: Leveraging AI in Provider Time and Patient Care

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Leveraging AI in Provider Documentation

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Strategic Focus: Leveraging AI in Documentation

Problem Statement

Average Provider at CCH spends **7 minutes:29 seconds** per patient in documentation.

Patients feel their Provider is not listening to them since their head is buried in the screen and keyboard instead of making eye contact with them.

EHR is blamed as a key contributor to Provider burnout and lower Patient Experience survey scores.

Objectives

Strategic Focus: Leveraging AI in Documentation

Utilizing the power of AI:

- Prioritize patients over documentation.
- Improve provider experience: more patient time, less computer time.
- Mitigate provider burnout with automated clinical documentation.
- Improve documentation quality: accuracy/specificity, reimbursability, timeliness, medical-legal risk mitigation.

Clinical AI Agent (CAA) Phase I

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Strategic Focus: Leveraging AI in Documentation

< 10 Minutes
Time to Install and begin Use

87 Days
Started Jan 16 and still going

41 Unique Providers in Pilot
Started with 11 providers

3236 Notes
Generated over 87 Days

80 Languages
Used so far: English, Spanish, Polish, Russian

5 Specialties
Family Medicine, Internal Med
Women's Health, Pediatrics, Pulmonology

81.3 % CAA Utilization
Top 10 providers Utilization

25.5% Utilization
Across all CAA providers

Andrew G. Birkhead, MD
Family Medicine

"Everyone in clinic that tried the AI Agent loves it"

Nuzhath Hussain, MD
Women's Health

"This application changed my life"

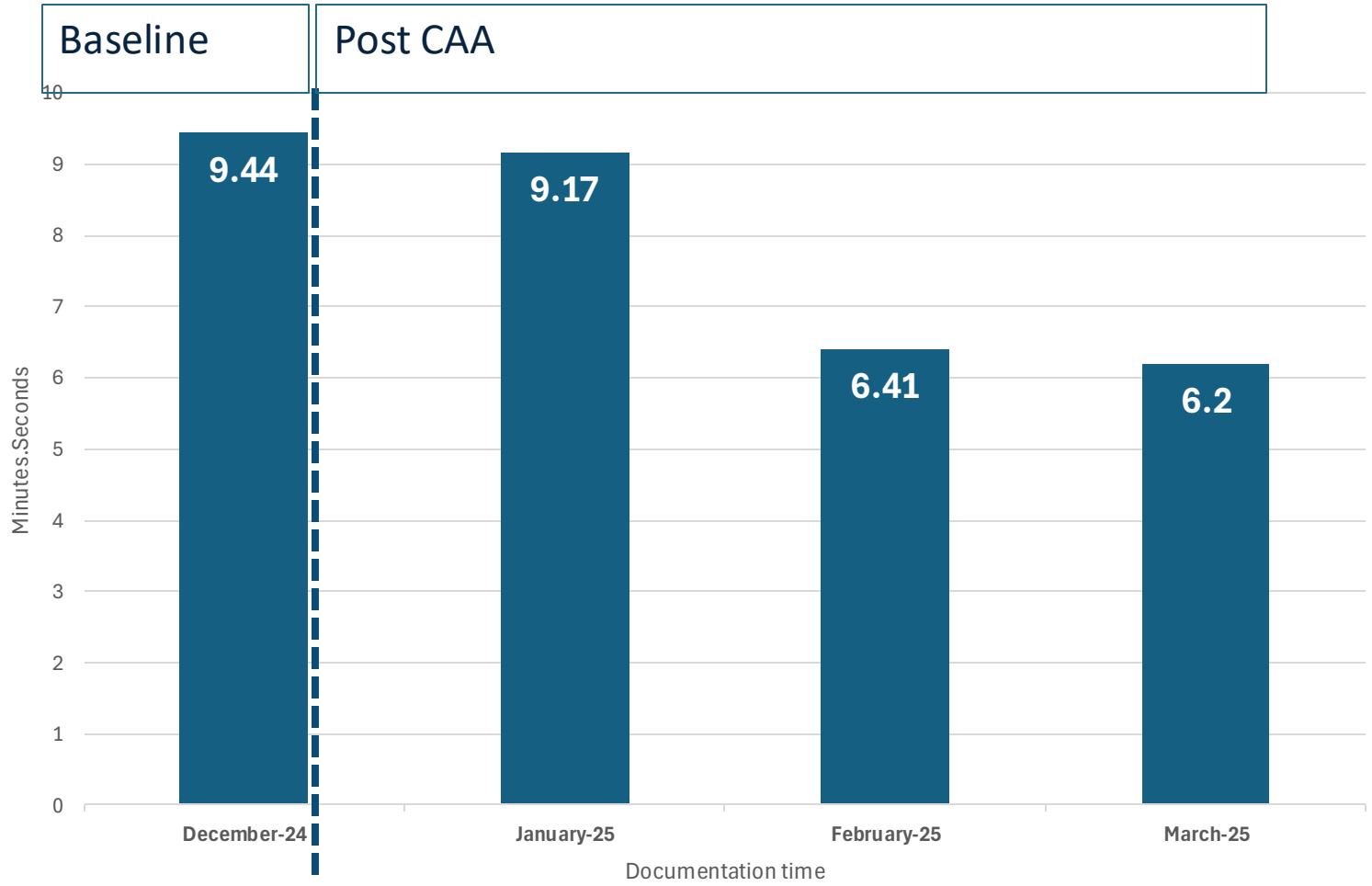
Julita McPherson, MD
Family Medicine

"A game changer for me"…"I hope we come up with a way to keep this beyond just the pilot"

Results: Provider Documentation Time

Strategic Focus: Leveraging AI in Documentation

35 % reduction in documentation time



Forecasted Results: System-Wide Use

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Strategic Focus: Leveraging AI in Documentation

Providers generate 23,555 Dynamic Documents per Month

Average time savings per Provider: 3 minutes:24 seconds (3.4 minutes/chart)

✖ 35% =

Expected System Wide Results

1,331 Provider hours saved Per Month

15,972 Provider Hours per year

Bridging the Digital Divide: Tele/Virtual Healthcare

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Tele/Virtual Health Objectives

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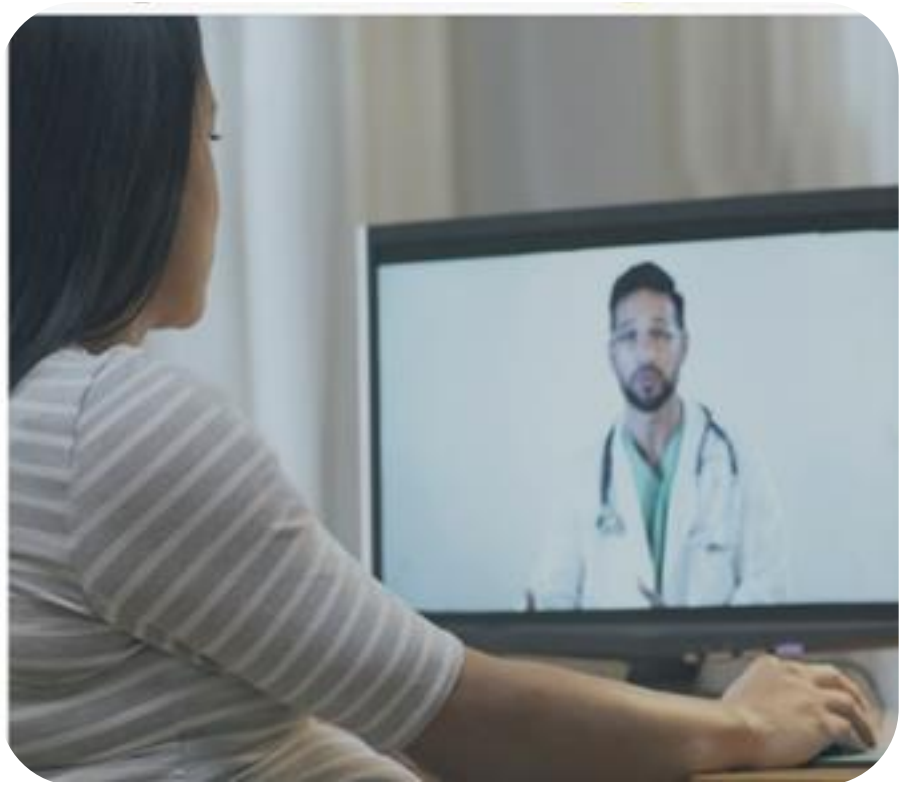
Strategic Focus: Bridging the Digital Divide

- Innovate and expand secure digital patient-centered virtual care platforms that:
  - Enhance clinical efficiency
  - Support healthcare teams
  - Reduce health disparities
  - Improve patient outcomes.
- To bridge the digital divide and deliver equitable, culturally responsive, high-quality telehealth care that complements in-person services.



Types of Telehealth Services

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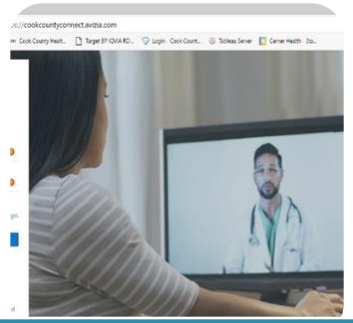
Strategic Focus: Bridging the Digital Divide



Live Video (Synchronous)

Store & Forward (Asynchronous)

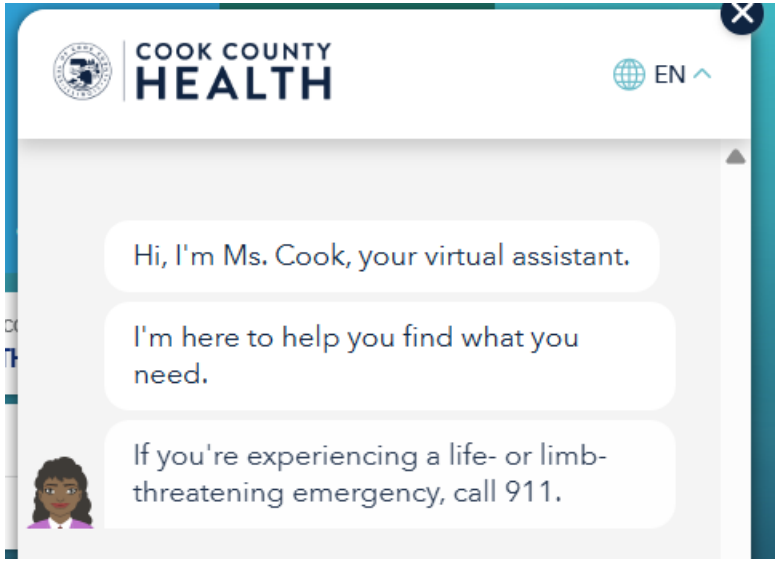
Remote Patient Monitoring

Mobile Health Applications

Telehealth Services Offered

Strategic Focus: Bridging the Digital Divide

- Synchronous
  - Real-time video consults with specialty providers
  - Live interpreter integration
  - Telesitter
- Remote patient monitoring
  - Use of connected health devices to collect and transmit patient data
  - Data shared with clinical team in real-time
- Mobile health applications
  - Ms Cook chat bot symptom checker
  - My Cook County Health patient portal
- Asynchronous
  - Secure messaging
  - Teleradiology
  - E-consults
  - Capturing and sending images
  - Uploading patient labs, encounter notes, digital images, and health histories



Tele-care for Hospitalized Patients:

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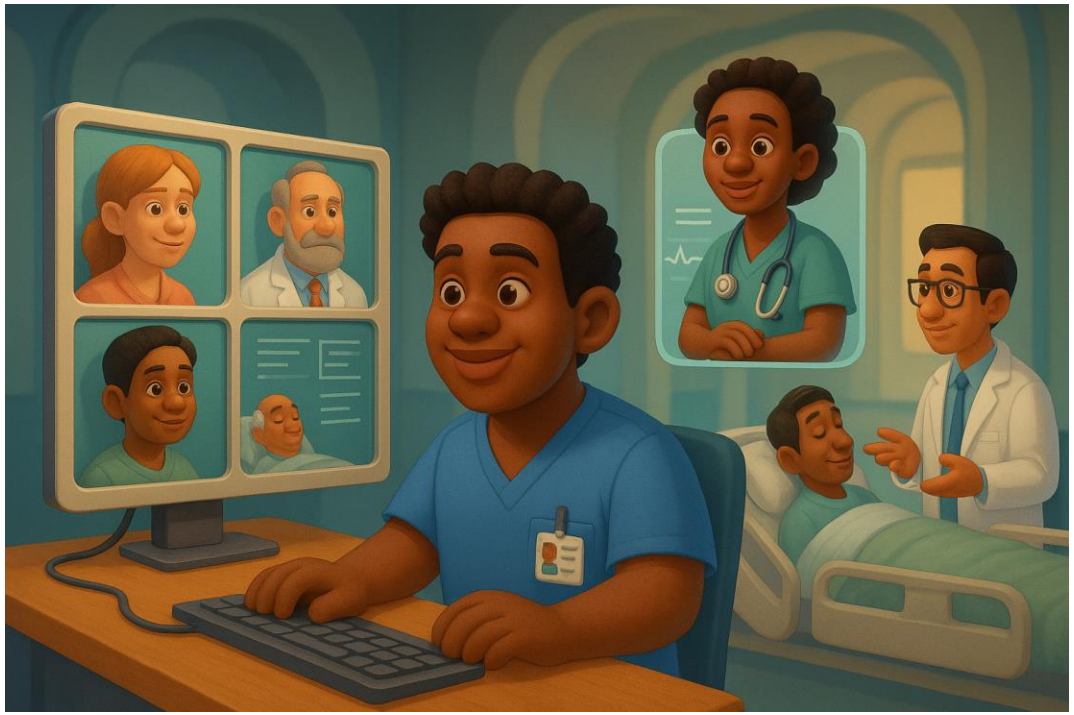
Enables **specialty clinicians** and **experienced providers** to deliver patient care and staff mentorship through **secure, high-fidelity** video and audio technology.

Common Use Cases

- Visual Monitoring (sitters) *Pilot program in place at CCH*
- Specialty Nursing Care
- Specialty Provider Care *Live at CCH*
- Tele-ICU



Strategic Focus: Bridging the Digital Divide

Emerging Technology:
*Hospitals are beginning to use **always-on** video monitoring for **large groups of patients**, allowing machine-learning tools to help identify patients who need additional care, such as those at risk of falls.*

Emerging Use Cases

- *Ensuring Appropriate Patient Mobility*
- *Prevention of Hospital-Acquired Pressure Injuries*
- *Ensuring Hand Hygiene*
- *Operating Room Efficiency*

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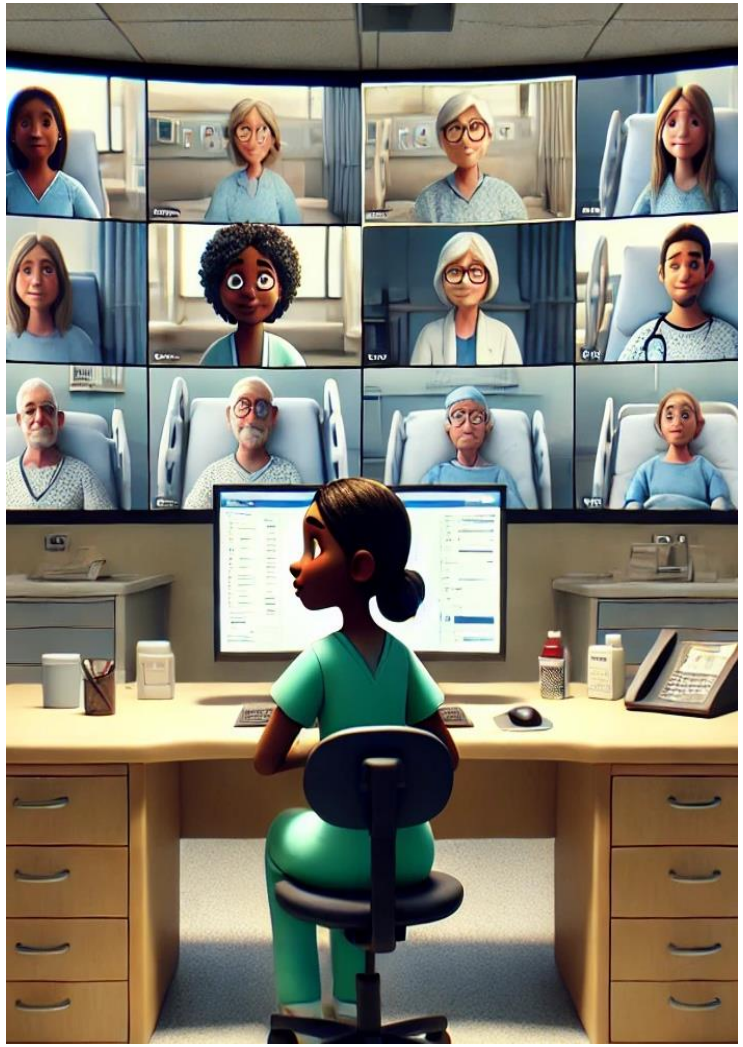
Virtual Sitter Literature Support

Strategic Focus: Bridging the Digital Divide

Quigly et al. :

"Eight studies demonstrated a fall reduction, and the remaining three showed no statistical difference in fall rates with the use of video surveillance."

"Cost savings for these interventions are based on the transition from 1:1 observation to virtual sitters; all 12 studies reported decreased overall costs transitioning to virtual sitters."



<u>*Isn't this just a Zoom meeting? No..*</u>

- *Elevated requirements for **system reliability** and clinician-centered usability*
- ***Enhanced cybersecurity** standards*
- *Devices must demonstrate increased **physical durability** to withstand continuous clinical use*
- *Devices must support **high-fidelity data capture and enable remote control***
- ***Full interoperability with the Electronic Health Record** (EHR) is required to ensure real-time data integration and clinical workflow alignment*

Hogan Quigley, Beth DNP, MSN, RN, CRNP; Renz, Susan M. PhD, DNP, RN, GNP-BC; Bradway, Christine PhD, RN, FAAN, AGSF. Fall Prevention and Injury Reduction Utilizing Virtual Sitters in Hospitalized Patients: A Literature Review. CIN: Computers, Informatics, Nursing 39(12):p 929-934, December 2021. | DOI: 10.1097/CIN.0000000000000773

Building a High-Maturity Security Program at Scale

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Elevating Information Security

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Objective: Build a future-ready security program,

Stay Ahead of Threats - Monitor microtrends and adjust defenses in real time.

Smart Security Investments - Focus on high-impact risks and align spend with future needs.

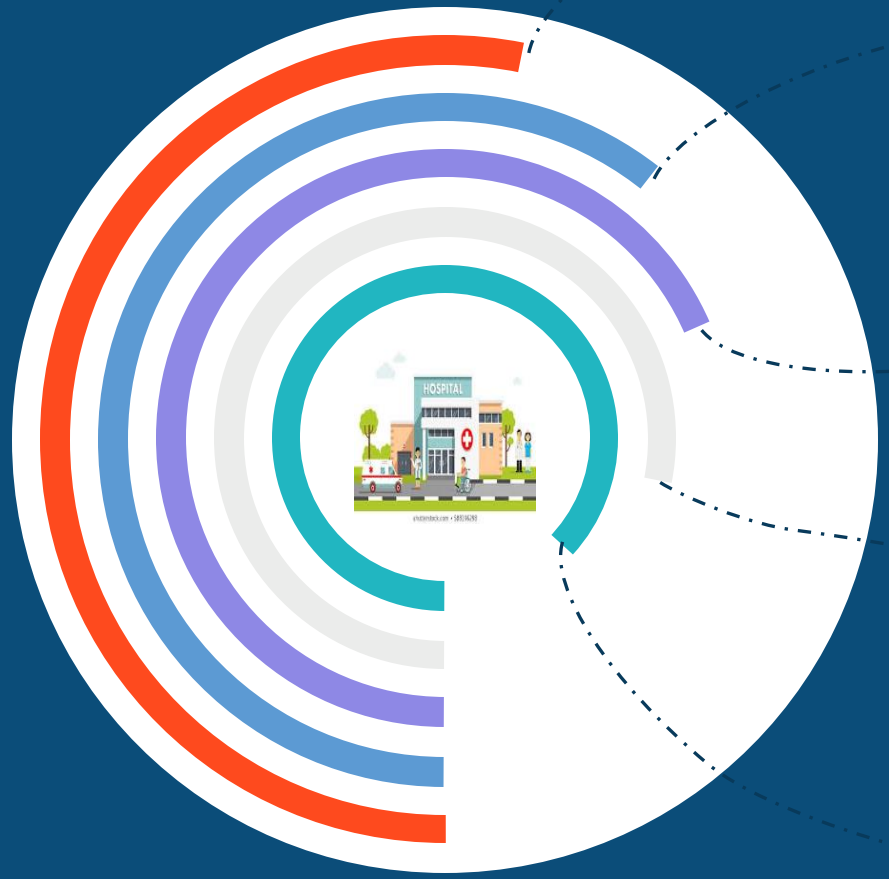
Think Beyond IT - Model risks like supply chain, behavior, and geopolitical disruption.

Prepare for AI Risks - Monitor AI misuse, deepfakes, and automation-driven threats.

Strategic Focus: High-Maturity Security Model

External Network Security:

Our Defense at the Edge



Strategic Focus: High-Maturity Security Model

Firewall Protection

- Blocks malicious traffic and filters harmful content.

Threat Prevention DoS/DDoS Protection

- Real-time defense against service-disrupting attacks.

Multi-Factor Authentication

- Extra layer of identity protection across all systems.

Vendor Access Management

- Secure, controlled access for third-party partners.

Threat Monitoring

- Continuous event monitoring with instant alerts.

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Internal Network Security:
How We Protect The Organization

Strategic Focus: High-Maturity Security Model

Email Security

- Safeguards communication with anti-phishing and malware filtering tools.

Identity Service Engine

- Controls secure access and blocks unauthorized devices.

Device Management

- Centrally manages mobile and desktop endpoints - including BYOD.

End Point Protection and Management

- Enables remote lock/wipe and asset tracking beyond our network.

EDR (Detection and Response)

- Detects and neutralizes endpoint threats using AI-powered analysis.

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Information Security Maturity

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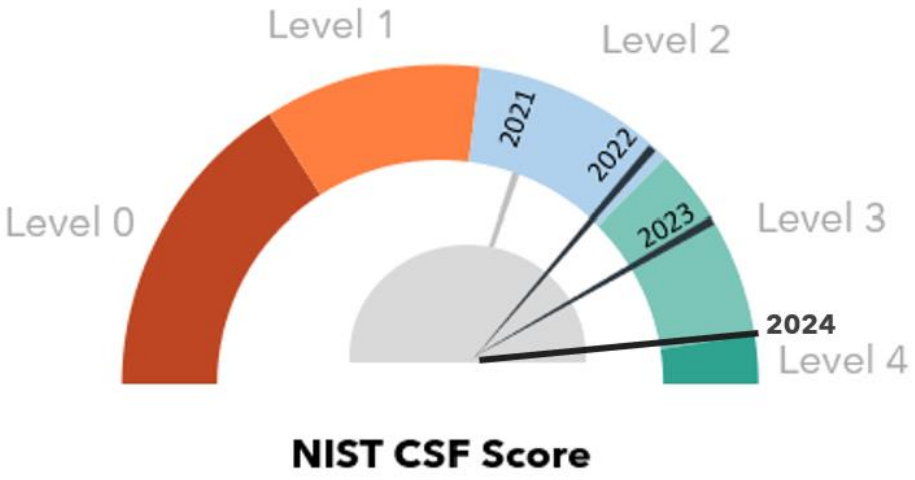
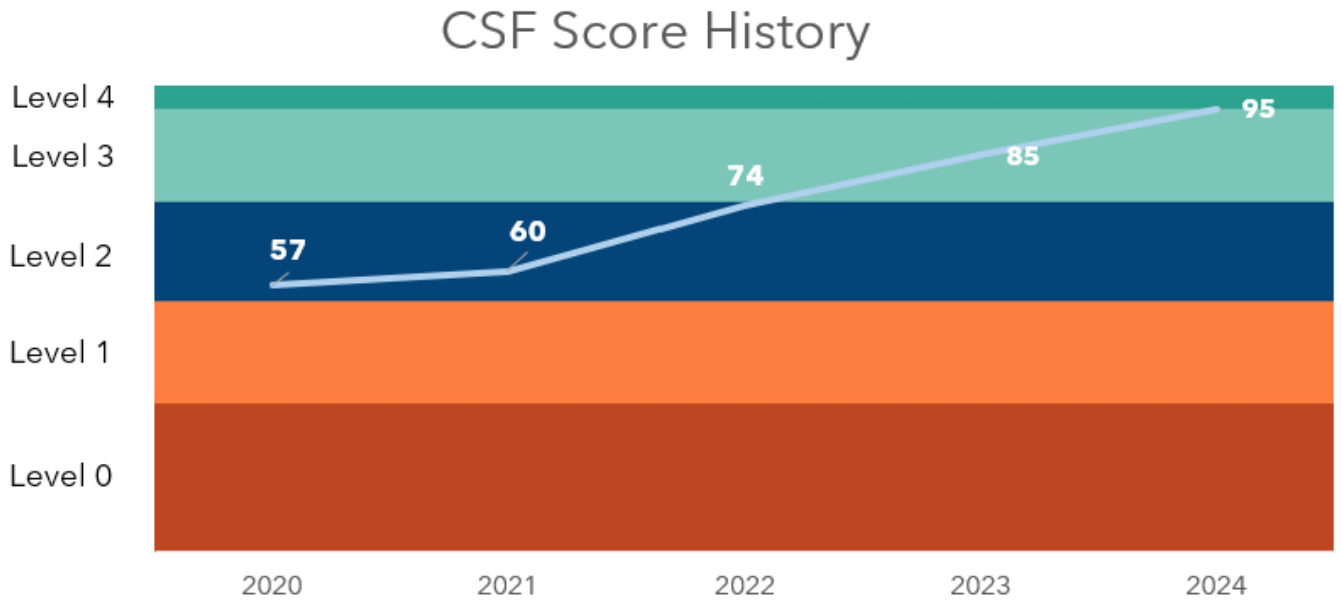
Strategic Focus: High-Maturity Security Model

NIST Cybersecurity Framework (CSF) Progression





We've achieved a peak maturity score of 95 in 2024—our highest ever.

"Ransomware and other cyberattacks on hospitals and other health facilities **are not just issues of security and confidentiality, they can be issues of life and death**," Tedros Adhanom Ghebreyesus, WHO Director-Genera

Summary: A High Performing Team Ready for What's Next

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CHiME Digital Health most wired Survey Acute 2024

CHiME Digital Health most wired Survey Ambulatory 2024

HIMSS Analytics Stage 7 EMRAM

HIMSS Maturity Models have offered healthcare organizations strategic pathways that advance key areas of provider maturity like infrastructure, analytics, coordination of care and clinical documentation.

Strategic Focus Areas

Technology to Meet the Demand: Strategic Focus Areas 2024-2028

- Bridging the Digital Divide
- Leveraging AI
- Building a High-Maturity Security Program at Scale
- Full Speed Ahead with Application Modernization
- Best In Class IT Department Defined Standards for Excellence

Association of Information Technology- Most Effective IT Team Award Express Care

National Association of Counties Awards

Thirteen CCH programs were recognized with a 2024 NACo Achievement Award, including:

NACo

Thank You

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