

NCCoE Health IT Projects

COMMUNITY OF INTEREST UPDATE
September 24, 2015

- Welcome & Introductions
- Use Case Projects' Status
- Use Case Projects' Overview
 - Securing Electronic Health Records on Mobile Devices
 - Wireless Medical Infusion Pumps
 - Medical Device Encryption
- More about the NCCoE

PROJECTS' STATUS

- **Securing Electronic Health Records on Mobile Devices**
 - A platform for health care providers to securely document, maintain, and exchange electronic patient information among mobile devices.
 - **Now available for comment: NIST Cybersecurity Practice Guide, Special Publication 1800-1**
 - [SP 1800-1a: Executive Summary](#)
 - [SP 1800-1b: Approach, Architecture, and Security Characteristics](#)
 - [SP 1800-1c: How-To Guide](#)
 - [SP 1800-1d: Standards and Controls Mapping](#)
 - [SP 1800-1e: Risk Assessment and Outcomes](#)
 - **Comment period on the draft will close Friday, September 25, 2015**

Comments Status

- Total Page Views: 42,449
Avg. Minutes spent on website: 2:25
- Total Page Views for project page (HIT): 12,612
Unique Views for project page (HIT PG): 9,308
Avg. Minutes spent on page: 5:46
- Total Downloads: 8,768
 - 1800-1a Executive Summary: 2,036
 - 1800-1b Approach: 1,731
 - 1800-1c How-To Guide: 1,740
 - 1800-1d Stds. & Controls Mapping: 954
 - 1800-1e Risk Assessment and Outcomes: 937
 - Use Case: 1370

Comment Period Closes Friday, 9/25/2015

PROJECTS' STATUS

- **Wireless Medical Infusion Pumps**
 - Helping health care providers secure wireless medical infusion pumps on an enterprise network.
 - Public comments being incorporated into the technical description.
 - Next, NCCoE will invite vendors of security technologies to collaborate on a reference design.
 - While the formal public comment period for this document has closed, you can participate in continued discussion about this project in our [discussion forums](#).
- **Medical Device Encryption**
 - Currently in the Need Assessment Phase

OVERVIEW

- **USE CASE SCOPE**

The life cycle of an infusion pump from planning, purchasing, and decommissioning the device.

Life cycle management includes:

- Procurement
- On boarding of asset
- Training and instructions for use
- Configuration
- Usage
- Maintenance
- Decontamination
- Decommissioning Devices

ARCHITECTURE MAY INCLUDE

- The Patient
- The Health Care Professional
- Wireless Infusion Pump
- Wireless Network
- Alarm Manager
- Electronic Medication Administration Record (eMAR) System
- Point of Care Medication System
- Pharmacy
- Computerized Physician Order Entry (CPOE)
- Drug Library
- Biomed Engineering

SECURITY CHALLENGES

- Access codes
- Access point (AP)/Wireless network configuration
- Alarms
- Asset management and monitoring
- Credentialing
- Credentialing server
- Maintenance and updates
- Pump variability
- Utilization



OVERVIEW

Assumptions

- Health care organizations may employ multiple controls to adequately safeguard PHI including physical, administrative, and technical safeguards.
- Encryption controls provide the most robust method for protecting PHI by rendering the data unreadable should the device be lost or stolen.

Process

- Create a test harness with input from the community of interest.
- The test harness will be applied and validated in the lab to devices using encryption from third party vendors.
- The test harness can then be used by device manufacturers to determine the effectiveness of their device encryption of data at rest.

GOALS

1. Demonstrate that data at rest encryption controls can safely and effectively be employed on medical devices.
 - a. Provide a capability on medical devices, build to a standard.
 - b. Identify obstacles ... technical and operational.
 - c. Consistent with current standards.
 - e. Satisfy some regulatory requirements through crypto.
2. Identify obstacles including regulatory, technical, and operational issues.
3. Develop a test harness created by the community of interest.
4. Help device manufacturers include encryption on their medical devices.

MORE ABOUT THE NCCOE

nccoe.nist.gov

1. Idea: COI/Industry
2. Needs Assessment[^]
3. Use Case^{*}
4. Federal Register Notice
 - Vendor Day
5. Submit Letter of Interest
6. Sign CRADA
7. Create build/implementation
8. Produce Practice Guide⁺



- [^] Medical Device Encryption
- ^{*} Wireless Infusion Pumps
- ⁺ EHR and Mobile Devices

NCCoE Project Lifecycle

- Process for identifying a cybersecurity-related challenge and completing NCCoE projects in six phases.
- Our goal is to unite industry, government, and academic stakeholders to increase adoption of tools that address real-world cybersecurity needs.

