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**ALLIANCE
MEETING**

18-20 JULY 2017



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Alliance Meeting 2017

RFID at Wayne HealthCare

Time Savings,
Patient Satisfaction,
Patient Security

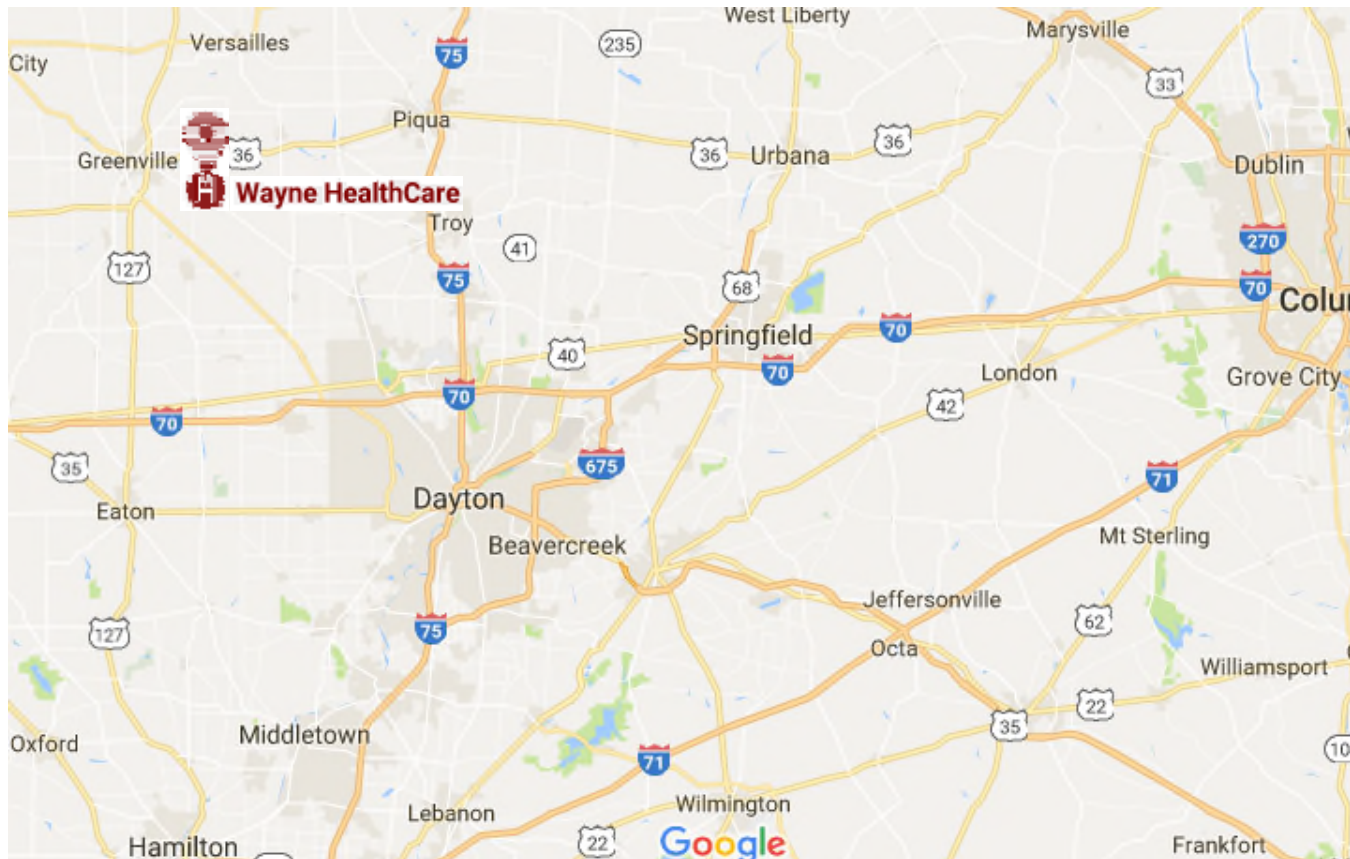
Who We Are

- Wayne HealthCare
 - Mid-sized, rural hospital
 - ≈ 175 doctors, nurses & clinicians
 - ≈ 400 other employees
 - ≈ Countless volunteers and helpers

Where We Are

- Greenville, Darke County, Ohio
 - About an hour northwest of Dayton
 - Farming community
 - Demographically elderly population

Where We Are



RAIN RFID Alliance Meeting 2017

What We Do

- Obstetrics
- ICU and Telemetry units
- Outpatient Rehab (physical/occupational therapy, etc.)
- Surgery
- Many other services

Clinical Systems We Use

- Evident from CPSI
 - Marketed to small to mid-size hospitals
 - Much less expensive than other systems
 - Somewhat limited in capability
- Other unrelated, clinical systems

RFID at Wayne HealthCare

- Asset Tracking
- Patient Satisfaction
- Patient Protection

RFID at Wayne HealthCare

Asset Tracking

Asset Tracking

- Reasons to automate
- What we need to track
- Process changes
- Benefits realized

Asset Tracking

- Reasons to automate
 - Annual inventory was taking a long time
 - Need to account for any equipment which may contain patient information (HIPAA strategy)
 - Often needed to outsource project
 - Items often went “missing” to later be found in closets and drawers

Asset Tracking

- What we must track
 - Any item which could potentially store data
 - PCs, laptops, tablets, etc
- What we actually track
 - Pretty well everything
 - Simplicity and speed of inventory makes this decision easy

Asset Tracking

- Process changes
 - Application of RFID tags to equipment before deployment
 - Found that different tag styles produce better results when attached to certain equipment types
 - Some experimentation at the outset but have now settled on a standard for almost all items
 - Entry into “AssetTrack” application

Asset Tracking

RFID tag
examples



Asset Tracking

“AssetTrack” screenshot

The screenshot displays the AssetTrack web application interface. At the top, the fluensee logo is on the left, and navigation tabs for Configuration, Assets, Reports, My Profile, and Administration are in the center. The right side of the header features the AssetTrack logo and a Log Out button. Below the header, the left sidebar shows a tree view for Asset Management, including Assets, History, Moves, Alerts, and Assign Tag. The main content area is titled 'Asset Details' and shows information for a specific asset with UID 3CQ209CMXW. The asset is a HP L1915 19 IN. MONITOR, currently in service, located at Wayne HealthCare/Main Campus/IT Office. A table at the bottom shows the asset's movement history, including its location changes and the time of each event.

4/11/17 12:26 PM (US/Eastern)
Welcome, Robyne. You are logged in as
Administrator

Asset Management

- Assets
- History
- Moves
 - Asset Moves
 - Individual Moves
- Alerts
 - Alert Conditions
 - Resolutions
 - Resolution Status
 - Alert Notifications
- Assign Tag

Asset Details

UID 3CQ209CMXW Locationain Campus/IT Office

Product Config UNKNOWN Owner UNKNOWN, UNKNOWN

Description HP L1915 19 IN. MONITOR Assignee Monger, Shelton

Status In Service Asset Name 3CQ209CMXW

Type UNKNOWN Organization Wayne HealthCare

Manufacturer UNKNOWN

Cancel
Edit
New

Rules Maintenance Finance Attribute External Sensor

Physical Attributes Life Cycle **Movement** History Identifiers Comments Attachments Inventory Receipt

From Location	To Location	Event Time	Source
Wayne HealthCare/Main Campus/IT Stockroom	Wayne HealthCare/Main Campus/IT Office	2015-03-17 13:49:48	rclark
UNKNOWN	Wayne HealthCare/Main Campus/IT Stockroom	2014-12-19 15:31:08	rclark

Asset Tracking

Alien ALH9011 Scanner



Asset Tracking

- Benefits realized
 - Inventory effort has been reduced from approx. 160 man hours to about 40
 - Discovers items which have been stored in drawers and storage closets
 - Less disruption in offices and patient care areas

RFID at Wayne HealthCare

Patient Satisfaction

RFID Patient Tracking System

- Installed in Department of Surgery
 - Process Study
 - Software Development
 - Hardware Selection
 - Installation
 - Refinement

RFID Patient Tracking System

- Goals
 - Provide instant feedback to family members
 - Patient satisfaction always a priority
 - Provide a virtually self-running system
 - Allow nurses to take care of patients – not a computer system

RFID Patient Tracking System

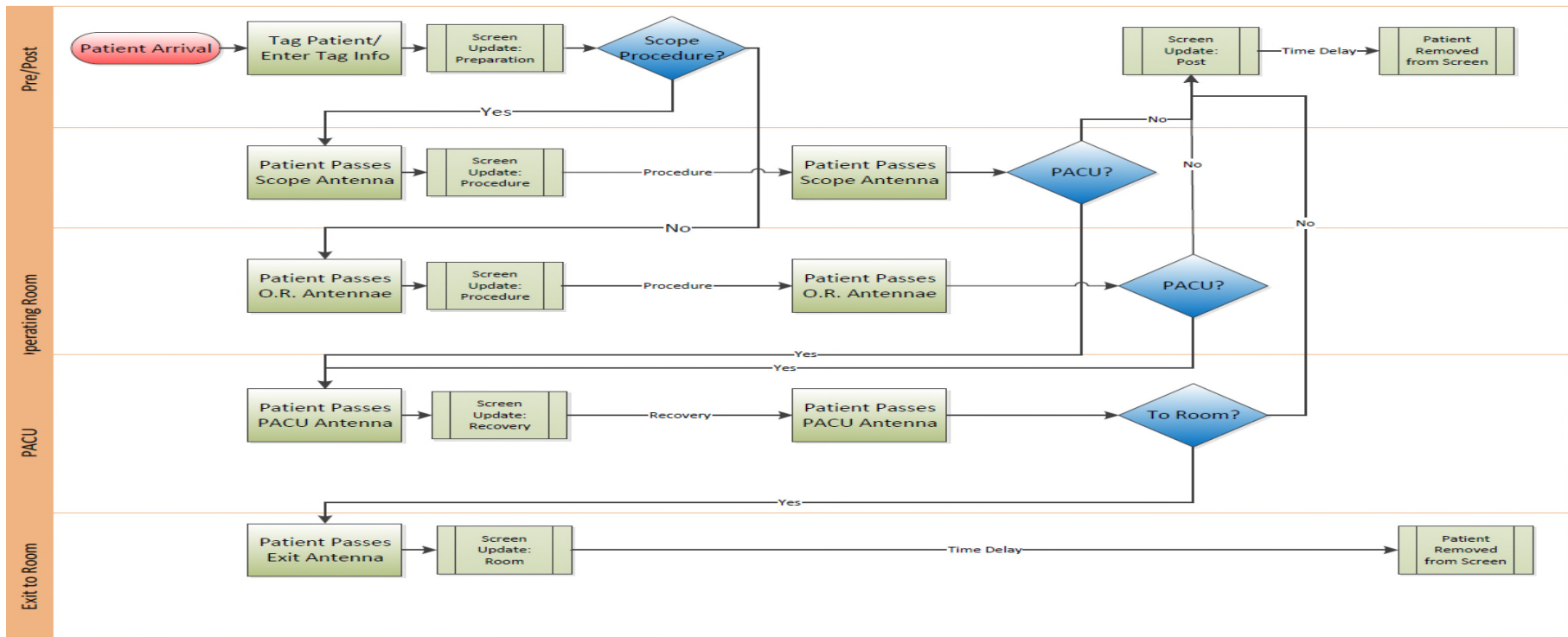
- Constraints
 - Evident does not provide an integrated patient tracking function
 - Larger systems do but at a much higher cost
 - Provide a virtually self-running system
 - Keep costs reasonable

RFID Patient Tracking System

- Process
 - Study of how nurses move patients through surgical process
 - Graph of surgery unit layout
 - Strategic placement of antennae and readers

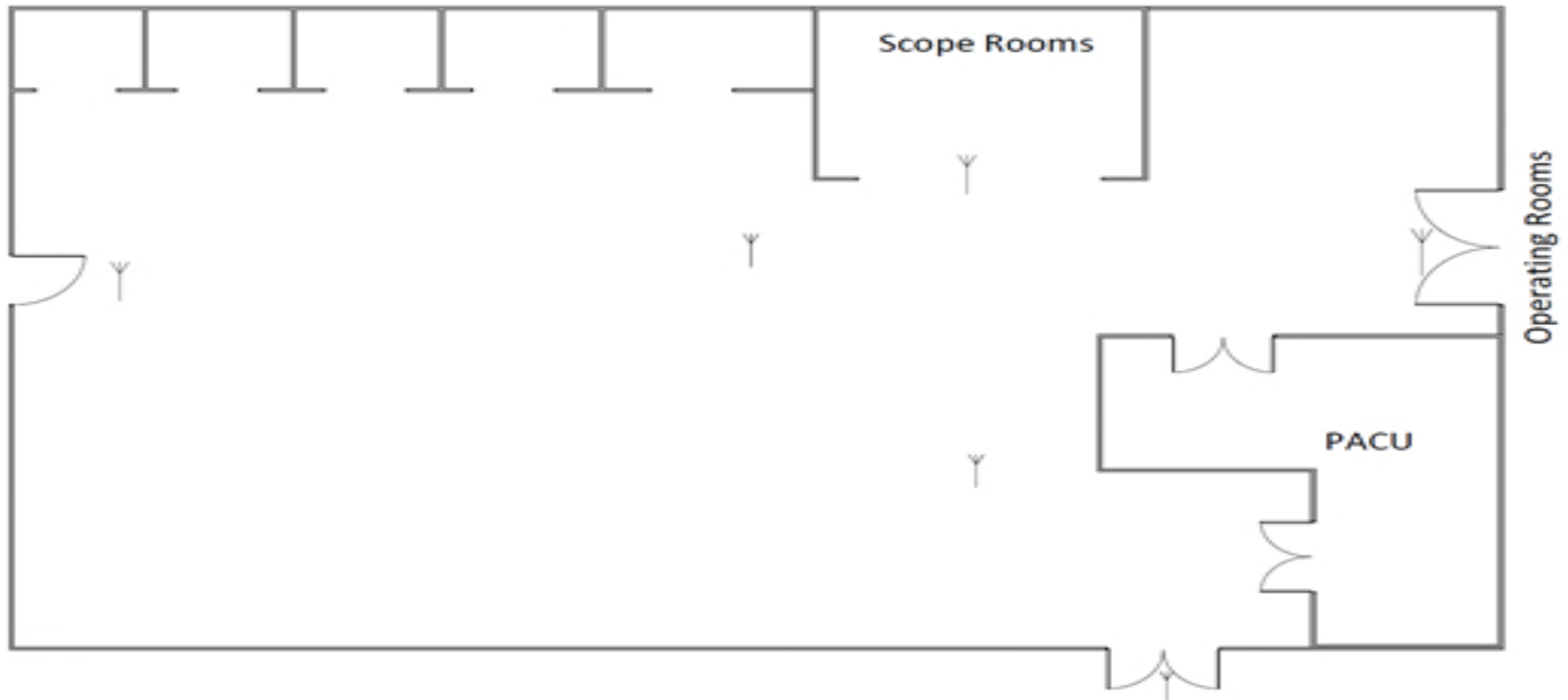
RFID Patient Tracking System

- Process flow study



RFID Patient Tracking System

- Unit layout and hardware placement



RFID Patient Tracking System

- Software
 - “ItemAware” (by Aware Innovations)

Work In Progress

- Java Application – Interfaces with readers and processes events
- MS SQL Database – stores users and tag locations
- Web based management console
- Web based waiting room display

RFID Patient Tracking System

- Hardware
 - Four Alien ALR-9900+ passive RFID readers
 - Six Alien Antennas ALR-8696-C
 - Raspberry Pi Computer/Television for Waiting Room



RFID Patient Tracking System (cont.)

- Installation
 - Coordination with electricians and other in-house services
 - Scheduled around surgical cases

RFID Patient Tracking System

- Refinement
 - Altered placement of some antennas
 - Refined some of the workflow logic to accommodate real-world operation
 - Some of the nurses needed to slightly modify their behaviors

RFID Patient Tracking System

- Refinement (cont.)
 - Modified how RFID labels were used
 - Originally thought to place tag onto patient's wrist but this did not provide reliable results
 - Changed to placing tags onto the bed which follows a patient through the surgical process

RFID Patient Tracking System

Picture of tag
on bed



RFID Patient Tracking System

- Patient tracking system in action

RFID Patient Tracking System (Waiting room)



RFID Patient Tracking System

Family member view

Patient Information		powered by ItemAware
Patient ID	Location	
001446	● Recovery Room	
001875	● Patient Room	
001993	● Procedure Room	
002013	● Operating Room	
003066	● Pre / Post Patient Room	
003067	● Operating Room	

Today 12 July 2017, 1:40 PM

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RFID at Wayne HealthCare

Patient Security

Patient Security

- Objective
 - To install a system which would better protect infants born at Wayne HealthCare
 - Special Beginnings obstetrics unit always well protected and locked-down
 - No precipitating incident or threat but security is always a concern.

Patient Security

- Selection considerations
 - Ease of use
 - Ease of maintenance
 - Reliability
 - Cost

Patient Security

- “Hugs” infant protection system from Stanley Healthcare (formerly Innovative Medical Solutions) selected
 - Met each of the selection criteria
 - In use at other medical facilities in Ohio

Patient Security

- Ease of use
 - System automatically generates a new target when a tag is prepared
 - Both audible and visual warnings of events

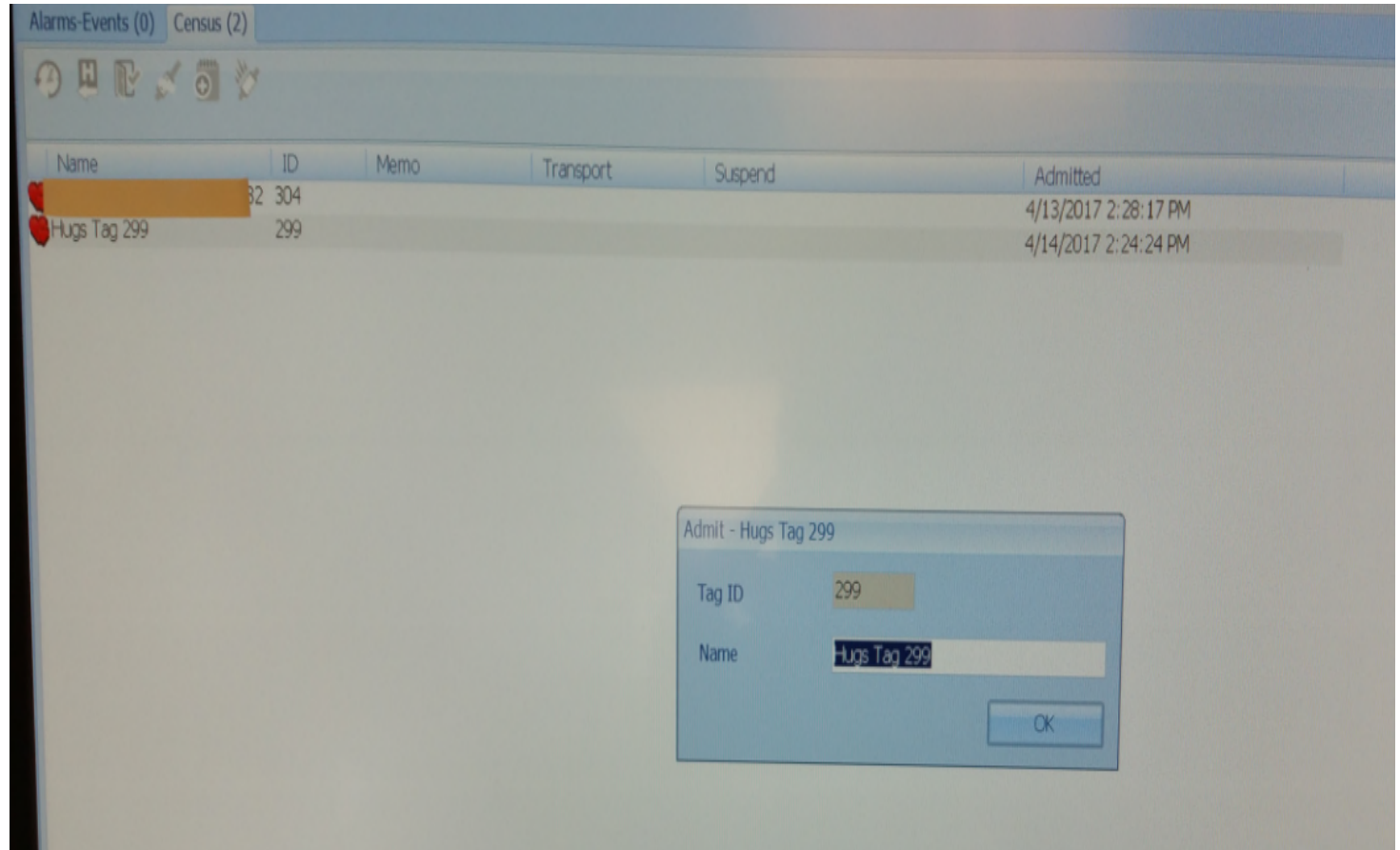
Patient Security

Infant Tag



Patient Security

Nurses'
station
view



Patient Security

- Ease of maintenance
 - Vendor provides 24-hour centralized monitoring relieving IT staff
 - Nursing staff don't need to babysit the system

Patient Security

- Reliability
 - System alarms if:
 - Infant approaches any exit from the unit
 - The tag becomes unreadable if it has twisted on the leg
 - The tag is removed or becomes too loose
 - Very few false alarms

Conclusion

- RFID is a technology that can be affordably used, even in smaller medical facilities.
- It has helped Wayne HealthCare to increase patient satisfaction, patient security, and employee productivity.

Thank You



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RFID



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