



SURGICAL INFORMATION SYSTEMS

Interoperability in the Perioperative Environment

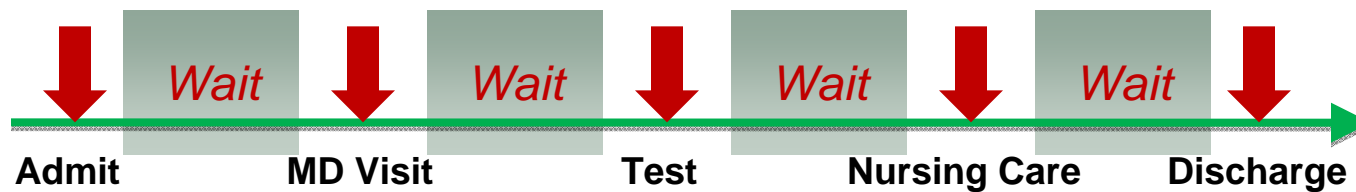
Characteristics of the Perioperative Environment

- The perioperative department is traditionally one of the most complicated environments within a medical center:
 - » OR staff – a large skilled labor force
 - » Large and diverse group of surgeons is privileged
 - » Anesthesia is an absolute necessity; need to integrate the Anesthesia Record into the Perioperative Patient Record .
 - » Implants are the most expensive part of a high-dollar supply account and there is inherent liability
 - » The amount of equipment required to run the OR, particularly at a tertiary-level medical center, is phenomenal
 - Storage and retrieval
 - Service and maintenance contracts
 - Staff training
 - Obsolescence/modernization



Typical Perioperative Workflow

The *patient experience* is a *series of care events* (testing, procedures, visits, nursing care) connected by *periods of waiting*.



Goal: Eliminate '*waits*' and Achieve
Improved Operational Margins



Goals for improving the Perioperative Workflow

- Increase the amount of time that the care giver has to focus on the patient
 - » Eliminate unnecessary or duplicate documentation
 - » Facilitate communication between care givers
 - » Consistency of documentation – eliminate ambiguity
 - » Ease-of-use
 - » Achieve process simplification
 - » Timely alerts and notifications
- Eliminate ‘waits’ and achieve improved operational margins
 - » Improve patient flow
 - » Analysis of data to drive operational efficiency
 - » Improve overall patient and caregiver experience



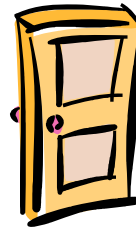
What is Interoperability?

- Interface

- » Equipment or programs designed to communicate information from one system of computing devices or programs to another



Interfacing



- Interoperability

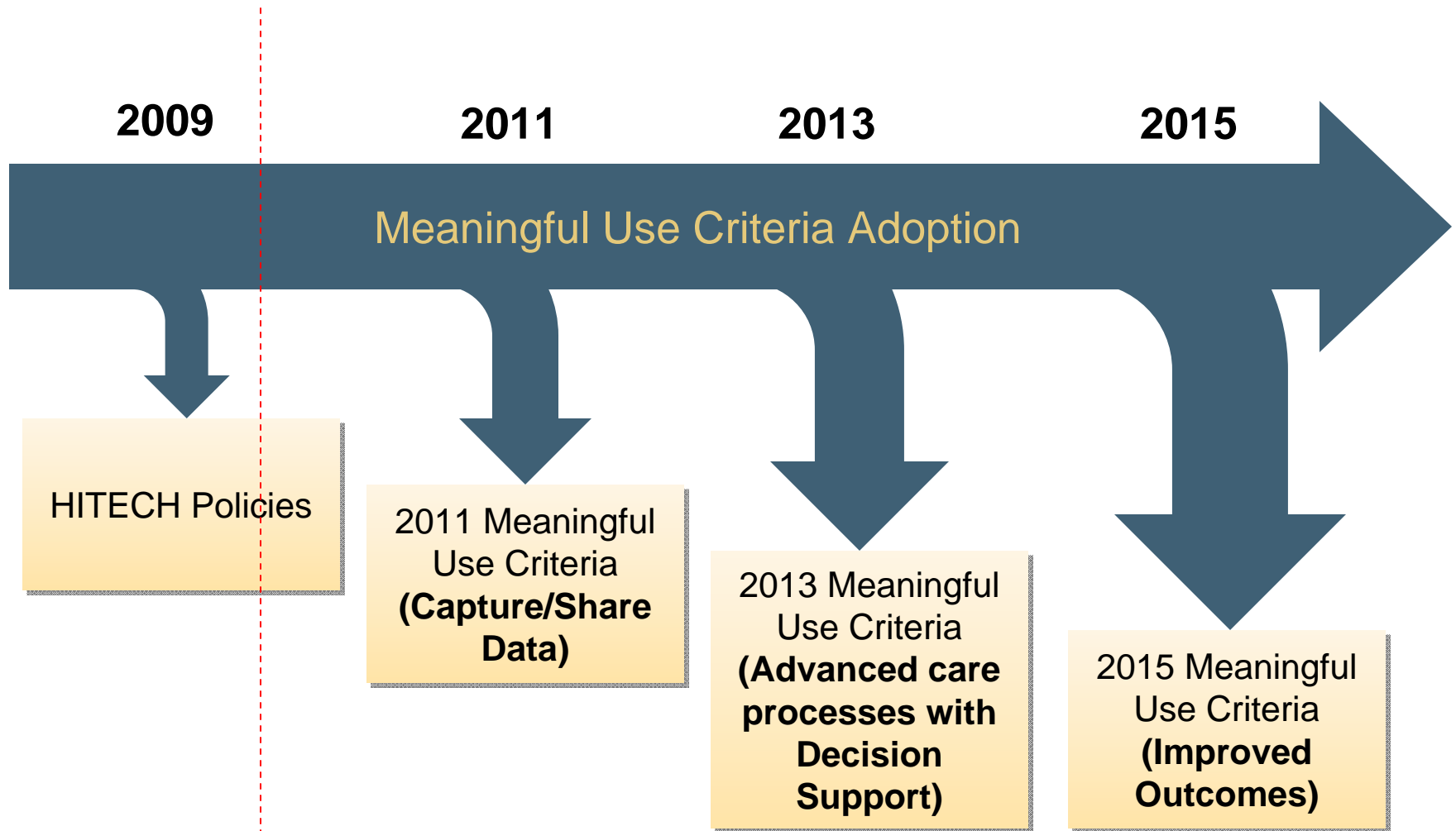
- » The ability of two or more systems or components to exchange information and use the information that has been exchanged using predefined standards



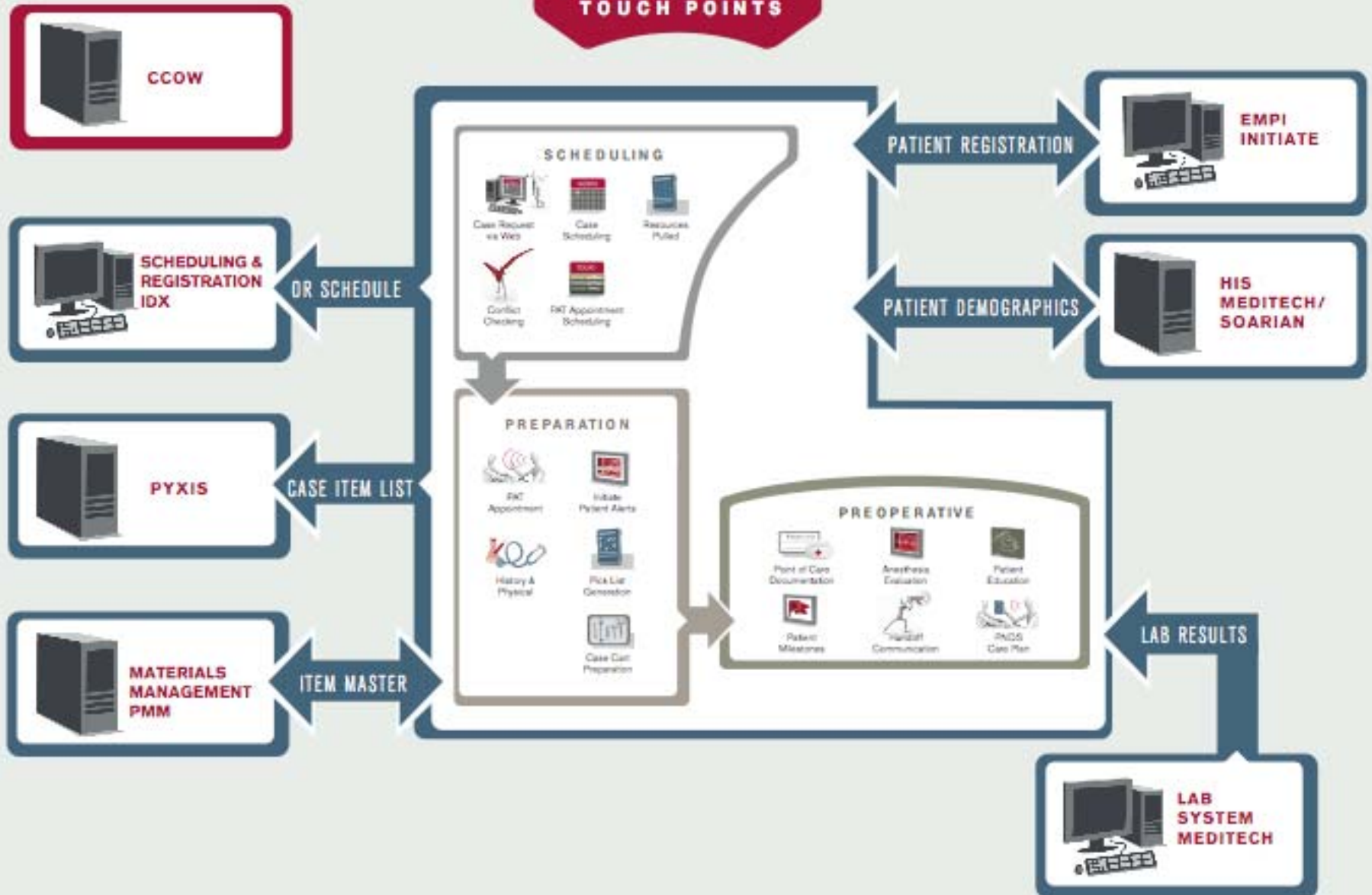
Interoperability




ARRA/HITECH Time table



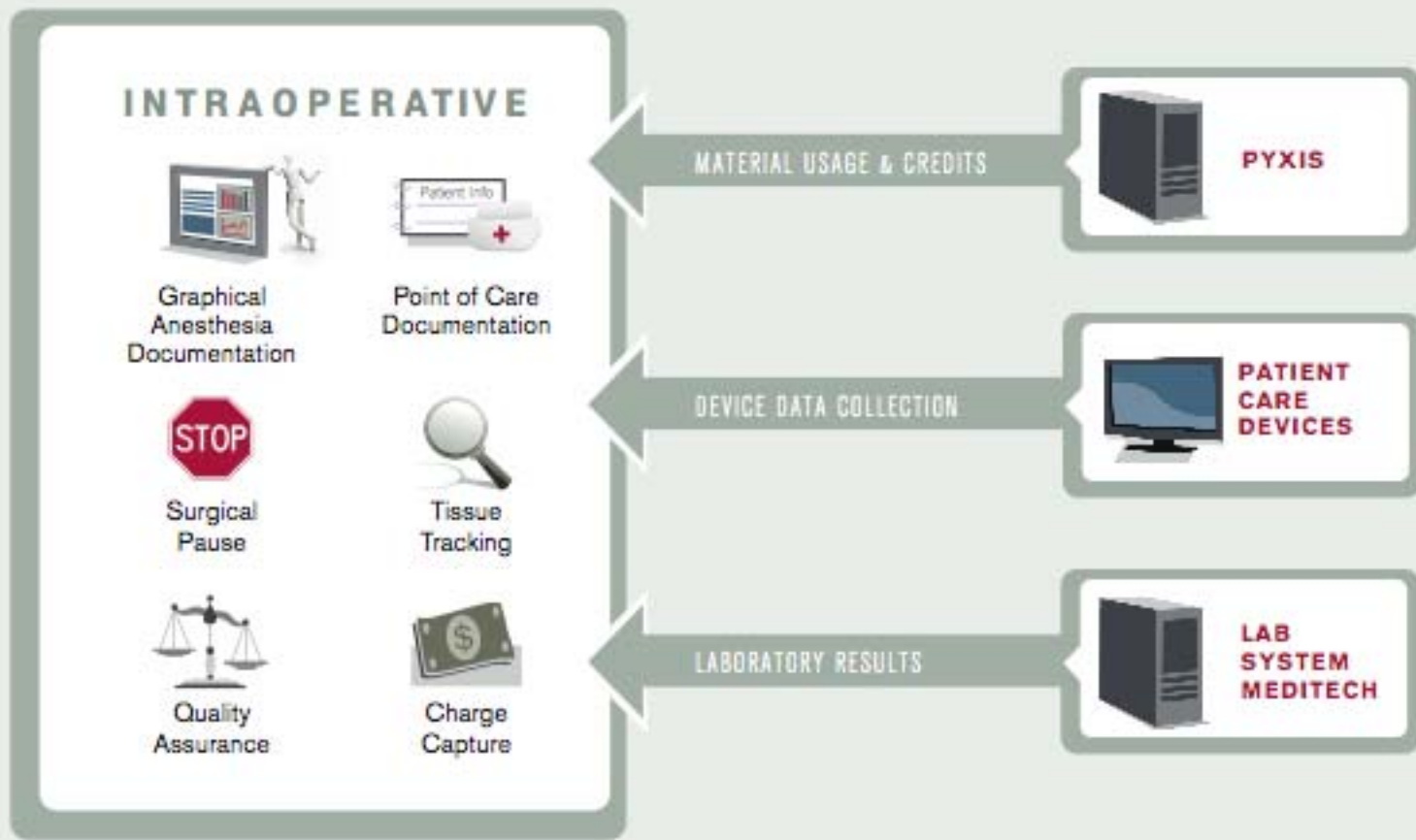
Example of INTEROPERABILITY TOUCH POINTS



Scheduling, Preparation & Preoperative

- Patient Registration & Demographics
 - » HL7 v2.4 ADT (Admission, Discharge, Transfer)
 - » *Tested* at IHE Connect-a-thon
- Item Master
 - » HL7 v2.3.1 MFN (Master File Notification)
 - » Option: Batch CSV formatted text
- OR Schedule & Case Items
 - » HL7 v2.4 SIU (Scheduling Information)
 - » HL7 v2.4 OMS-O05 (Stock Requisition Order)
- Lab Results
 - » HL7 v3 XD-LAB (Adopted by HITSP as C36)
 -  » HL7 v2.3.1 ORU (Observation Reporting)

**Example of
INTEROPERABILITY
TOUCH POINTS**



Intraoperative

- Material Usage and Credits
 - » HL7 v2.4 DFT (Detail Financial Transaction)
- Device Data Collection
 - » Capsule Technology Device Drivers
 - » Option: HL7 v2.6 ORU (Unsolicited Observation)
 - » *Tested* at IHE Connect-a-thon
- Lab Results
 - » HL7 v3 XD-LAB (Adopted by HITSP as C36)
 - » HL7 v2.3.1 ORU (Observation Reporting)



Example of INTEROPERABILITY TOUCH POINTS




CCOW
DESKTOP
CONTEXT
SHARING




BILLING
MEDITECH /
SOARIAN


POSTOPERATIVE




Continuous Assessment




Point of Care Documentation




Automated Vital Signs



Medication Reconciliation



Postoperative Follow-up



Patient Outcomes



PYXIS



MATERIALS
MANAGEMENT
PMM



PATIENT
CARE
DEVICES



MEDICAL
RECORDS
eWEBHEALTH

CHARGES

MATERIAL USAGE & CREDITS

MATERIAL USAGE & CREDITS


DEVICE DATA COLLECTION

PATIENT HISTORY

Postoperative

- Charges & Credits
 - » HL7 v2.4 DFT (Detail Financial Transaction)
- Device Data Collection
 - » Capsule Technology Device Drivers
 - » Option: HL7 v2.6 ORU (Unsolicited Observation)
 - » *Tested* at IHE Connect-a-thon
- Material Requisition
 - » HL7 v2.3.1 MFN (Master File Notification)
- Patient History
 - » HL7 v3 XPHR ((Adopted by HITSP as C32)
 - » *Tested* at IHE Connect-a-thon
 - » Option: HL7 v2.4 MDM (Medical Document Management)

Privacy, Security & Infrastructure

- Privacy & Security Standards
 - » IHE ATNA (Audit Trail & Node Authentication)
 - » HITSP T15 Collect and Communicate Security Audit Trail
 - » HITSP T17 Secured Communication Channel Transaction
 - » *Tested* at IHE Connect-a-thon
- Cross Enterprise Document Sharing
 - » IHE XDS.b
 - » HITSP TP13b
 - » *Tested* at IHE Connect-a-thon
- Consistent Time
 - » IHE CT, HITSP T16
 -  » *Tested* at IHE Connect-a-thon

SIS' Leadership Role in Integrating the Healthcare Enterprise

