



# Welcome!!!!

## 2017 Eye Care Connectathon Kick-off Webinar

### Agenda:

- Welcome and Introductions (Don)
- Eye Care Domain Profile Status (Don)
- Q & A
- Connectathon purpose, preparation, processes, and schedule (Lynn)
- Final Q/A

# Eye Care Profiles

*You are highly encouraged to view a full overview of IHE profiles and use cases in the Eye Care domain.*

- **IHE Annual Webinar Series** with presenters...
  - Don Van Syckle – DVS Consulting
  - Peter Scherer – ifa group of companies
  - <http://www.ihe.net/Webinars/#eye>

***A summary follows...***

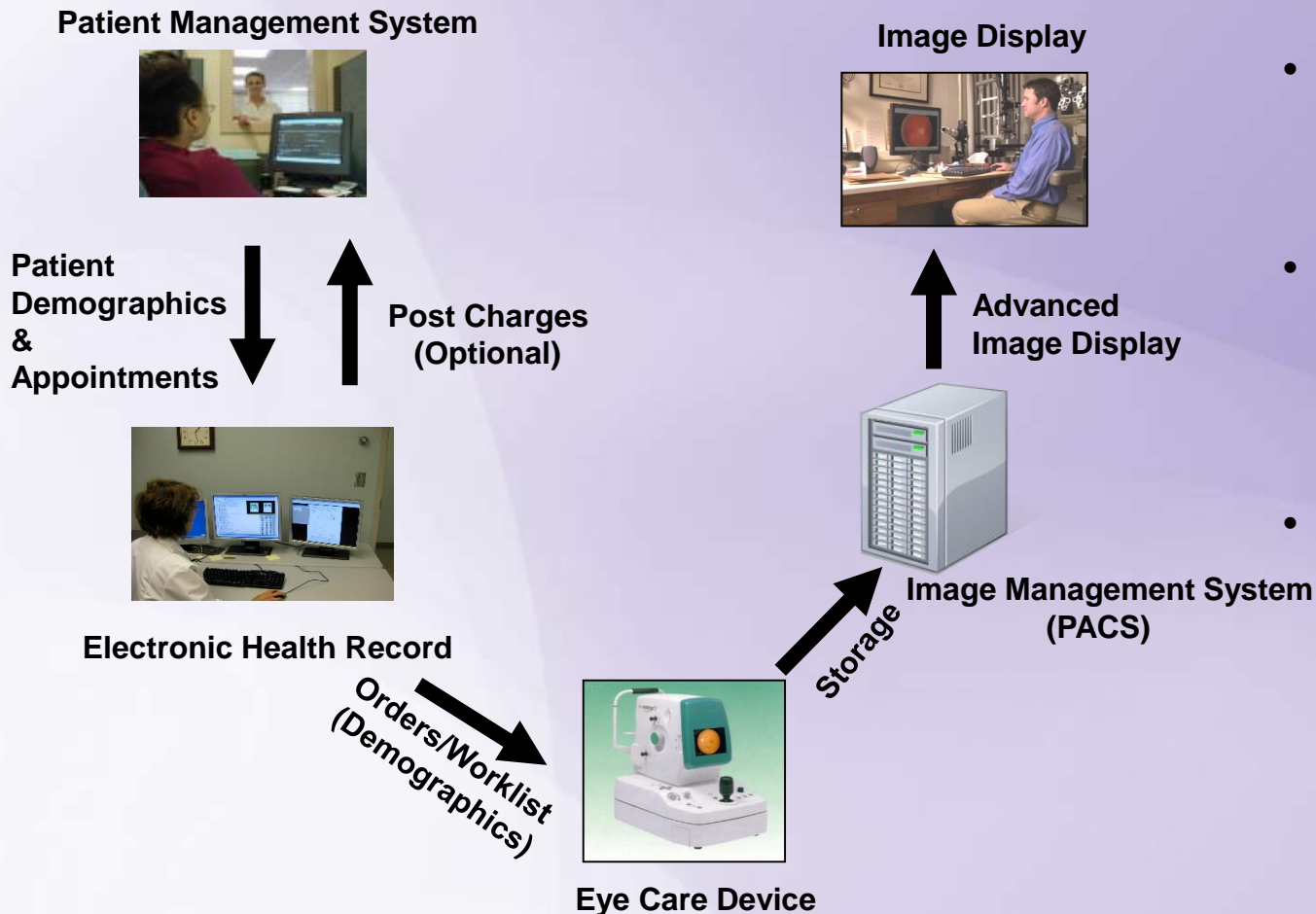
# Unified Eye Care Workflow

- Automated Workflow in your practice
- Patient Safety in Mind - *input patient information once*
- Products such as Practice Management Systems (PMS), Electronic Medical Record Systems (EMRs), Image Management (PACS), Image Display Workstation and eye care Imaging Devices
- Expanded to include EMR to refractive device measurement integration
  - Japan Ophthalmic Instruments Association (JOIA)  
XML-based refractive measurements
- Standards used
  - HL7 v2.5.1 messages, DICOM SOP Classes and JOIA XML streams
- ***All other workflows Retired***
  - Advanced Eye Care Workflow - ***Retired***
  - Basic Eye Care Workflow - ***Retired***
  - Core Eye Care Workflow - ***Retired***

***Pick the workflow configuration that fits your practice***

# Real World Model I

***EHR provides DICOM patient list to devices & uses Image Management System (PACS) to archive images and reports***



- *Patient Demo & Appointments Based Upon HL7 v2.5.1*
- *Device Patient List (Worklist) and Images/Reports (DICOM)*
- *Advanced Image Display (DICOM)*

# Real World Model II

***EHR provides DICOM patient list to devices & stores/displays key DICOM images and reports (no PACS)***

**Patient Management System**



**Patient Demographics & Appointments**



**Post Charges (Optional)**



**Electronic Health Record**

**Orders/Worklist**



**Storage of Key Images/Reports (No PACS)**

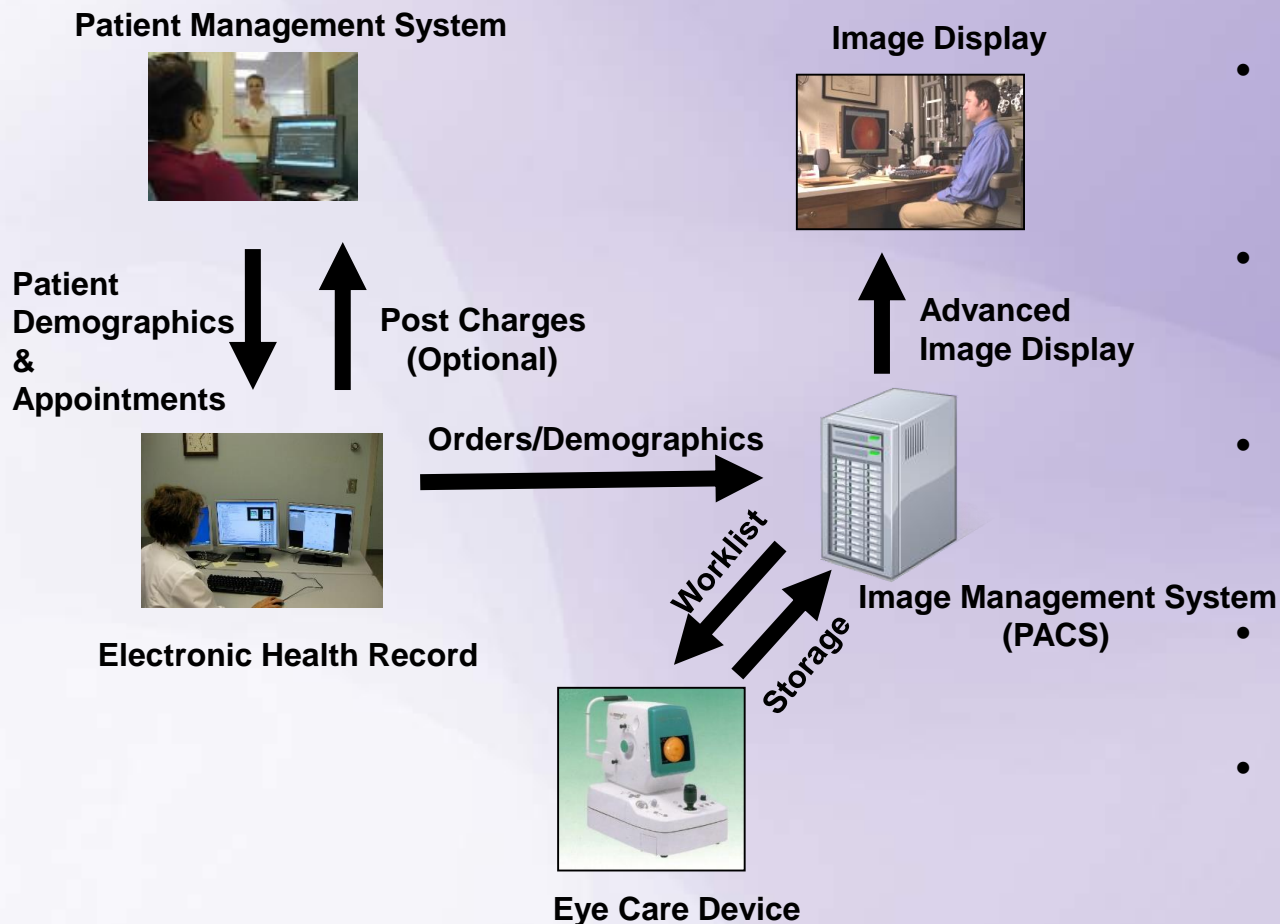


**Eye Care Device**

- *Patient Demo & Appointments Based Upon HL7 v2.5.1*
- *Device Patient List (Worklist) and Images/Reports (DICOM)*
- *Storage & Display of Key Images on EHR*
- *Devices and Users responsible for safekeeping of images*

# Real World Model III

***EHR does NOT support DICOM features (HL7 only) & integrates with PACS that supports DICOM patient list to devices and archival of images/reports***



- *Patient Demo & Appointments Based Upon HL7 v2.5.1*
- *EHR sends Patient and Order info to PACS (HL7)*
- *PACS provides patient list to devices (DICOM MWL)*
- *PACS archives images/reports (DICOM)*
- *Advanced Image Display (DICOM)*

# Refractive Measurements

- Extends U-EYECARE Workflow to standardize EHR to refractive device workflow
- Addresses scenarios where organizations have a PMS, an EHR and refractive measurement devices such as autorefractors, auto-keratometers, lensometers, etc.
- Based upon Japan Ophthalmic Instruments Association (JOIA) XML based specification, version 1.5
- Two workflow models are defined:
  - Refractive Measurements Model without Patient ID
  - Refractive Measurements Model with a valid Patient ID

***Common format for all refractive devices***

# Japan Ophthalmic Instruments Association (JOIA)

- XML file based specification, IHE uses version 1.5
- Data objects are defined as “data classifications”:
  - Refractometer, Keratometer, Tonometer, Lensometer
- One or more “data classification” may be included in a file
- Transport mechanism not defined (in JOIA or IHE)

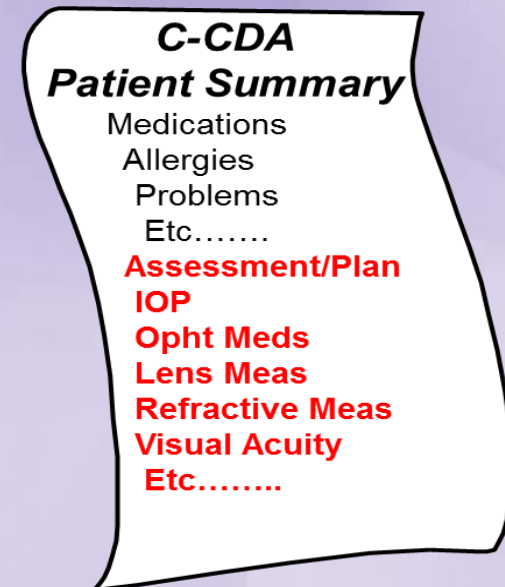
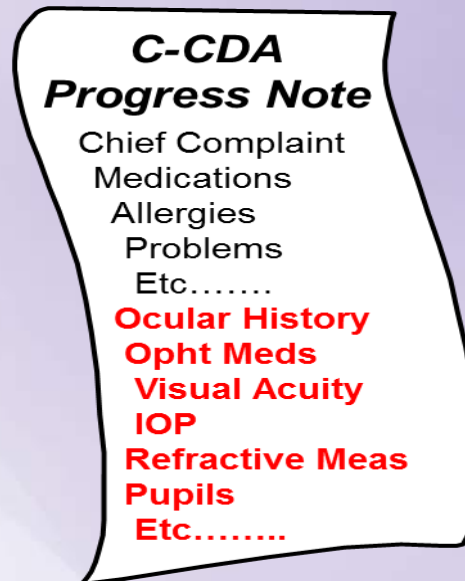


# Intra Office Data Exchange

- IHE Content Profiles defines document data exchange based upon the HL7 V3 C-CDA (Consolidated Clinical Document Architecture)
- These templates only include general health care related data, such as medications, allergies, problem list ....
- Does not include specific eye care health care data, e.g. no refractive measurements, IOP, Visual Acuity...
- Eye care specific information has been added to C-CDA documents and received by systems supporting the general C-CDA templates.
- IHE General Eye Evaluation (GEE) enhances the Progress Note (PN) template to capture a patient's visit.
- IHE Eye Care Summary (EC Summary) enhances the Continuity of Care Document (CCD) template to capture the eye care summary of a patient.

# Intra Office Data Exchange

- IHE GEE and EC Summary are proper extensions to HL7 C-CDA
- C-CDA documents contain a human readable representation of the structured data, therefore, systems can display the general and eye care extended information.
- This enables the clinician to view all the data, even if the system does not process the eye care extensions.
- You should expect eye care specific systems to process the extended information.



# Finding Profile Documentation

IHE's Technical Framework documents are published on ihe.net

- [http://www.ihe.net/Technical\\_Frameworks/#eyecare](http://www.ihe.net/Technical_Frameworks/#eyecare)

**BUT**, some updates to EC-Summary from the Eye Care Technical Committee are pending publication.

## Current status for each profile:

- U-EYECARE and GEE
  - 2016 version on ihe.net; same version tested last year
- EC-Summary
  - Updated with LOINC codes

Find links to the profile documentation for Connectathon testing at:

<https://gazelle.ihe.net/content/ihe-eye-care-connectathon-2017-resources#EyeCareProfiles>

Questions?

# Connectathon purpose, preparation, processes and schedule

## TOPICS:

- Important resources for Connectathon participants
- What happens during a connectathon?
- How do I register to participate?
- What is required to prepare?
- What is the timeline?
- Where do I find the documentation and tools?
- Q & A

# Important resources for Connectathon

## 1. Connectathon Google Group

...for email announcements

<https://groups.google.com/forum/#!forum/iheeyecareconnectathon>

## 2. Gazelle (IHE's test management tool)

...for Connectathon registration and testing

<http://ihe.wustl.edu/gazelle-na/>

## 3. Connectathon Resources Page

...for schedule, testing resources, training material, etc

<https://gazelle.ihe.net/content/ihe-eye-care-connectathon-2017-resources>

*To provide context, let's start at the end...*

## **Process During Connectathon**

- You are assigned a set of required tests for each **IHE profile/actor** you support.
- You execute each test with peer systems. This is an iterative process throughout the week
- Connectathon monitors (Lynn & Don) examine results of individual test instances.
- Initial failures can be fixed and retested later in the week
- Connectathon manager (Lynn) evaluates these results against the overall “success” criteria per profile/actor pair
- Prepare and practice for the AAO demonstration

**Cooperative efforts to debug problems and work towards success**

**Opportunity to find problems in products *and* in the profiles**

# How do we make it work?

- [Gazelle](#) is a web-based software system to manage testing.
- Gazelle contains:
  - Test definitions linked to IHE profiles/actors/options
  - Embedded validation tools
- You enter: Test system details, profiles supported, configurations
- Gazelle presents you a customized list of tests to run
- During Connectathon...
  - Gazelle presents you a customized list of tests to run
  - Gazelle identifies candidate test partners
  - You choose your partners
  - You run a test, enter test evidence & results in Gazelle
  - A monitor stops by later to examine your results
  - Repeat...



# When You Finish...

- IHE & AAO publish which *actor/integration profile pairs* each company has tested
  - We do not publish failures
  - We do not guarantee conformance to your customers
  - This is not government testing/certification
- You are prepared to participate in IHE showcase demonstration
- You have the benefits of an extraordinary testing opportunity

How do I get from here to  
the Connectathon??

# Preparation steps

1. Decide what you want to do
2. Register for Connectathon
3. Complete advance technical preparation
  - Exchange DICOM, HL7 & CDA samples
  - Share your configuration details
  - Submit pre-Connectathon test results

# Register for Connectathon

We have a single Gazelle for all NA connectathons  
(*same as last year*)

<http://ihe.wustl.edu/gazelle-na>

- Gazelle remembers...
  - User accounts maintained over time
  - Company demographics & contacts maintained
  - Test systems & results from past connectathons
- Each connectathon is a different 'testing session' within gazelle
  - Eye Care 2012, 2013...2017
  - NA 2012, 2013... 2017
  - Etc...

# Registration Steps

- (1) Create a user account in gazelle (*now*)
- (2) Enter company and contact information (*now*)
- (3) Enter the “system(s)” you want to test and profile/actors/options supported (*due Aug 25*)
  - This can be a challenge for first-time participants
  - You need to understand profiles, actors, options
  - You need to decide how many systems you want to test
  - You need to get this right by the close of registration
  - Registration is not complete until this is done
  - “How to” training is available. Arrange for a phone call if you need help.
- (3) Register staff members who will attend Connectathon (*due Sep 22*)
- (4) Submit contract and fees to Flora (*due Nov 11*)

# Gazelle Registration

***How to....***  
***(mini refresher)***

First-time participants – contact Lynn

# Technical preparation: What, When, and Why?

## **WHAT & WHEN** (\*Before\* testing peer-to-peer at Connectathon)

- Submit sample content (DICOM, HL7, CDA) (**before Sep 29**)
- Test with partners' samples (**before Oct 13**)
- Test using tools (**before Oct 13**)
- Exchange configuration parameters (**Oct 11 / Sep 30**)
- Review Connectathon test definitions (**before Oct 23**)

## **WHY**

- Identify and correct software bugs in advance
- A key to success at the connectathon

# Pre-Connectathon Test Types

- **Sample Exchange:** upload sample DICOM images, HL7 messages, or CDA documents into gazelle so your partners can review before the Connectathon
- **Content:** Evaluate (*tool or manual inspection*) whether you produced the proper content for a message, image or document
- **Workflow:** Exchange HL7 or DICOM messages with a tool



# Exchange of DICOM, HL7 & CDA Samples

Purpose: to avoid Connectathon surprises!!!

- **DICOM objects**
  - Modality and Evidence Creator systems submit DICOM samples & screen shots
  - Image Managers and Displays store & render them
- **HL7 message samples**
  - Many messages are new! So, no message validators yet.
  - 'Sending' actors produce HL7 messages
  - 'Receiving' actors have a chance to import/process them prior to Connectathon
- **C-CDA (GEE & EC-Summary)**
  - Content Creator systems submit samples
  - Content Consumers store & render/process them
- ***Due Sep 29***

# Tools

*...and the challenge of new profiles...*

## VALIDATORS:

- Gazelle External Validation Service (Gazelle EVSClient)
  - Validate DICOM images, HL7 messages, CDA docs, more...
- Non currently for C-CDA
  - We will do manual inspection

## SIMULATORS:

- Order Manager (generates HL7 orders & DICOM MWL)
- Patient Manager (source of ADT messages, **but** no support yet for EYECARE-15 Patient Registration A04 & A08 message)
- ~~Legacy MESA Tools~~ (*nearing retirement*) - Workflow testing; tool takes the role of 'surrounding' actors

## **More “how to” coming after you register...**

Finding & reviewing your tests in Gazelle

Entering your configuration parameters

Using Gazelle during Connectathon week

# Stay informed...

- **Connectathon Google Group**

<https://groups.google.com/forum/#!forum/iheeyecareconnectathon>

- **Lynn Felhofer** (gazelle, test tools, process, test definitions, profile questions)

[felhofer.lynn@gmail.com](mailto:felhofer.lynn@gmail.com)

- **Don Van Syckle** (demonstration, profile questions)

[don.van@dvsconsult.com](mailto:don.van@dvsconsult.com)



We hope you'll  
join us in  
October!!

