

The IHE logo consists of the letters 'IHE' in a bold, dark blue, sans-serif font. A vertical line is positioned to the right of the letters, separating them from the tagline.

**IHE**

Integrating  
the Healthcare  
Enterprise

A stylized globe is positioned in the lower-left quadrant of the slide. It features a grid of latitude and longitude lines and is rendered in a light purple color. The globe is partially obscured by the main title text.

***Integrating the Healthcare Enterprise  
International – Cardiology Domain Update***

***Webinar Series 2017***

The logo for the Integrating the Healthcare Enterprise (IHE) initiative, consisting of the letters 'IHE' in a bold, dark blue, sans-serif font.

Integrating  
the Healthcare  
Enterprise

## *Presenting Members*

**Jerry Serwer MD**, University of Michigan *[PC co-chair]*

**David Slotwiner MD**, Weill Cornell Medical College *[PC co-chair]*

**Nick Gawrit**, heartbase *[TC co-chair]*

**Chris Melo**, Philips Healthcare *[TC co-chair]*

**Paul Dow**, American College of Cardiology *[TC/PC Secretariat]*

## 2017 Webinar Agenda

1. Cardiology Interoperability: Guiding Principles and Needs
2. Three Ways IHE Can Improve Your Cardiac Service Line Communications with Other Departments
3. Cardiac Procedure Note [CPN] Helps Clinicians Optimize EP/Cath Lab Workflow
4. Four Ways Interoperability Contributes to Improving Care Delivery in Your Facility
5. Call for Proposals
6. Questions and Answers



Integrating  
the Healthcare  
Enterprise

## 2017 Webinar Agenda

- 1. Cardiology Interoperability: Guiding Principles and Needs**
2. Three Ways IHE Can Improve Your Cardiac Service Line Communications with Other Departments
3. Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow
4. Four Ways Interoperability Contributes to Improving Care Delivery in Your Facility
5. Call for Proposals
6. Questions and Answers

# Cardiology Characteristics

- **Both inpatient and outpatient settings (increasingly blurred)**
- **Heavily procedure oriented – diagnostic and interventional**
- **Many people require data and contribute to data acquisition**
  - Clinicians
  - Nursing/extenders/technicians/medical assistants
  - Anesthesia
- **Huge data sets that may be in different “silos”**
- **Numerous reports generated from same data**
  - Pre procedure report
  - Anesthesia record
  - Nursing record
  - Procedure report
  - Post procedure record
  - Discharge report and referring clinician letters
  - Patient letter and instructions

# Cardiology Needs

- **Avoid entering data multiple times**
- **EVERYONE requires access to ALL the discrete data**
- **Report consumers**
  - EHR
  - HIE
  - Billing - Payers
  - Regulatory agencies
  - Registries
  - Patients
  - Oh yea - Clinicians

# Cardiology Interests for the C-Suite

- **Return on investment**
- **Increased efficiency (decreasing costs)**
- **Meeting the patient and clinician needs**
- **Quality Improvement initiatives**
- **Accreditation Issues**
- **Rapid response by vendors to new needs**
  - Data fields and structure
  - Changes in practice
  - Governmental regulations

# Cardiology Needs To Standardize

- **Data Models**
- **Nomenclatures**
- **Workflows**
- **Structured Reporting**
- **Semantic and Syntactic Interoperability**

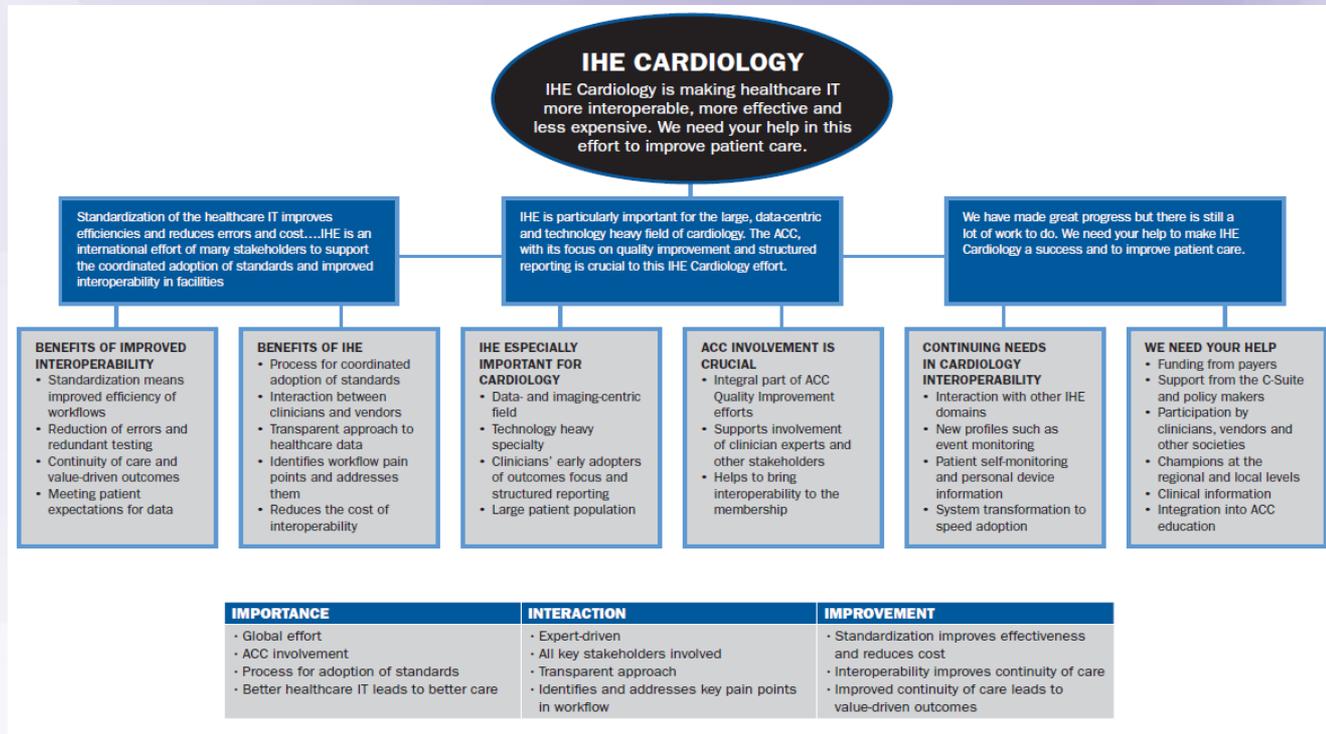
## Cardiology Needs to Avoid

- **Proprietary, Site Specific Data Elements**
- **Duplicative Testing**
- **Manual Data Entry**
- **Reinventing**
- **Addressing Only Very Specific Situations**

## Additional Needs and Goals

- **More input from clinicians and industry**
- **Closer ties with other IHE domains, professional societies, and policy makers**
- **Proactive customers to encourage use of IHE work by industry**

## IHE Cardiology Key Message Goals and Mission



Windle JR et al: **2016 ACC/ASE/ASNC/HRS/SCAI health policy statement on integrating the healthcare enterprise.** J Am Coll Cardiology 2016; 68:1348-64.

## 2017 Webinar Agenda

1. Cardiology Interoperability: Guiding Principles and Needs
- 2. IHE Can Improve Your Cardiac Service Line Communications between Departments**
3. Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow
4. Four Ways Interoperability Contributes to Improving Care Delivery in Your Facility
5. Call for Proposals
6. Questions and Answers

# Consistent Cardiac Imaging Workflow

## Scope:

- Scheduled and unscheduled cardiac imaging exams, including multi-modality exams

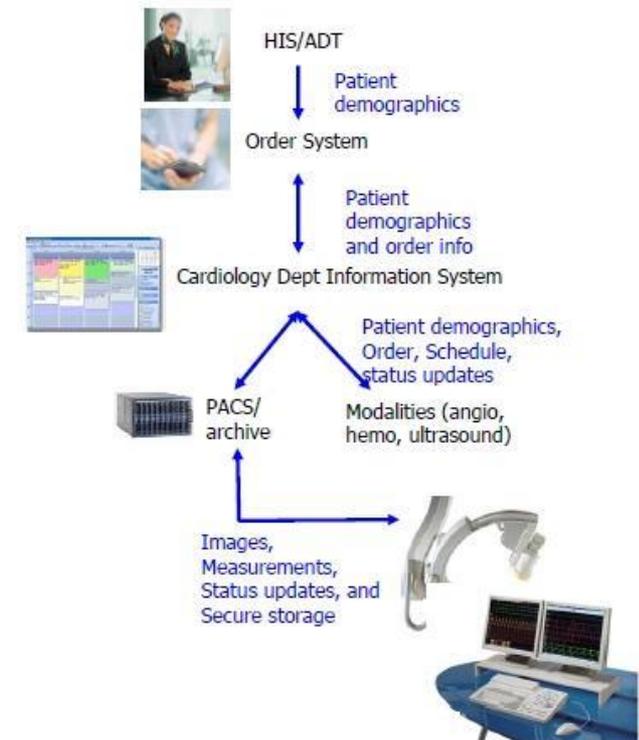
## Benefit:

- Consistent, robust workflow minimizes manual procedure management tasks

## Addresses clinical use cases:

- Patient registered and exam ordered
- Patient registered and procedure not ordered
- Emergency case
- Patient information updated during the procedure
- Room change during procedure
- Procedure cancelled
- Evidence creation during and post-procedure
- Intermittently connected modality
- Staged protocols (e.g. Stress)

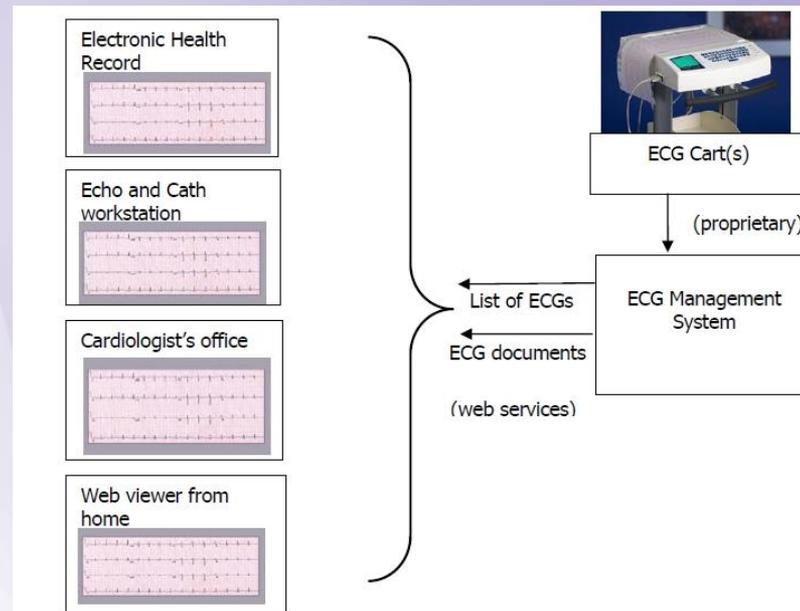
IHE defines a standards-based  
vendor neutral solution!



# Support for Most Common Cardiology Exam - ECG

## Scope:

- Consistent resting ECG acquisition workflow for multi-vendor solution
  - Supports scheduled, unscheduled and post-exam reconciliation
- Enable access to and display of ECG anywhere in the healthcare environment



## Benefits:

- Components and workflow shared with imaging specialties.
- Simplified and standardized Web-based access to ECGs eliminates need for printed ECGs.

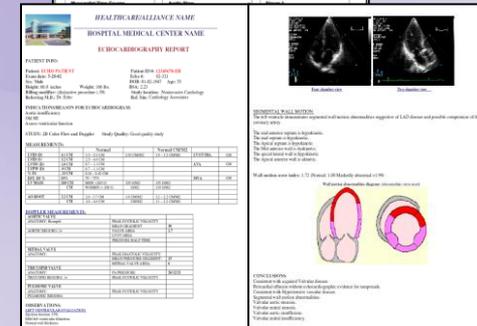
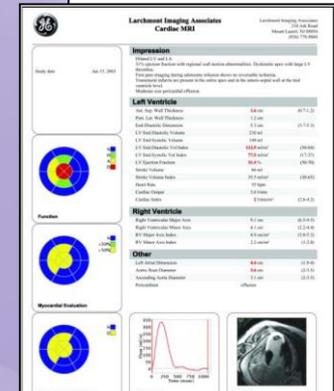
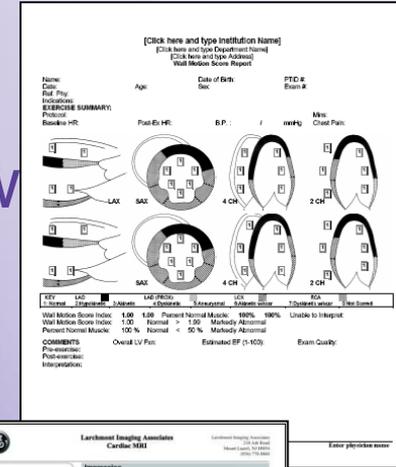
# Standardized Reporting Workflow

## Scope:

- Create, finalize, archive, and distribute reports ready for display
- Create evidence for specific cardiac imaging exams and procedures in structured format and standardized nomenclatures
- Communication between reporting systems and image archive/manager for
  - Access to clinical content to include in report
  - Distribution of report for access by content consumers

## Benefits:

- Consistent, robust workflow minimizes manual procedure management tasks
- Provides access to all the data where needed downstream



IHE defines a standards-based vendor neutral solution!

## Extending Workflow to Ambulatory Office Setting

### Scope:

- Enable physicians office with workflow for production of diagnostic images
  - Supports use cases for explicitly ordered consultation or diagnostic exam/procedure, unordered exam, patient update, procedure update
- Bi-directional integration of imaging suite with office HIT systems
- Supports integration of EMR with image order filler for scheduling and management functions

### Benefit:

- Leverages workflow from in-patient environment to office domain



## Existing Cardiology Profiles

[http://wiki.ihe.net/index.php/Profiles#IHE\\_Cardiology\\_Profiles](http://wiki.ihe.net/index.php/Profiles#IHE_Cardiology_Profiles)

- **[CATH] Cardiac Cath Workflow**- integrates ordering, scheduling, imaging acquisition, storage and viewing for Cardiac Catheterization procedures **FINAL**
- **[ECHO] Echocardiography Workflow** - integrates ordering, scheduling, imaging acquisition, storage and viewing for digital echocardiography **FINAL**
- **[ECG] Retrieve ECG for Display** - provides access throughout the enterprise to electrocardiogram (ECG) documents for review purposes **FINAL**
- **[ED] Evidence Documents** - Cardiology-specific options to the Radiology ED profile for DICOM Structured Reports **FINAL**
- **[STRESS] Stress Testing Workflow** - provides ordering and collecting multi-modality data during diagnostic Stress testing procedures **TRIAL**
- **[DRPT] Displayable Reports** - manages creation and distribution of “display ready” (PDF or CDA) clinical reports from the creating application, to the department, and to the enterprise. **TRIAL**
- **[REWF] Resting ECG Workflow** - workflow for collecting ECG data in both ordered and unordered procedures, data storage and access, and ECG reporting **TRIAL**
- **[IEO] Image-Enabled Office Workflow** - integrates an imaging suite with an EHR system in an ambulatory office setting, including ordering, imaging, report creation, and web-based imaging exam review **TRIAL**

## Cardiology in the World of Interoperability Standards

### IHE Cardiology

HL7

V2  
CDA/C-CDA  
FHIR

DICOM

Base  
Part 20  
DICOMweb

Nomenclatures

LOINC  
SNOMED  
IEEE 11073

ATNA  
CT  
XDS  
RID

IHE  
IT Infrastructure

SWF, RWF  
PDI, XDS-I  
ED  
IID

IHE  
Radiology

CDA  
PMDT  
XCHT-WD

IHE  
Patient Care  
Coordination

IDCO  
DEC

IHE  
Patient Care  
Devices



Integrating  
the Healthcare  
Enterprise

## 2017 Webinar Agenda

1. Cardiology Interoperability: Executive Four-Point Summary
2. Three Ways IHE Can Improve Your Cardiac Service Line Communications with Other Departments
- 3. Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow**
4. Four Ways Interoperability Contributes to Improving Care Delivery in Your Facility
5. Call for Proposals
6. Questions and Answers



Integrating  
the Healthcare  
Enterprise

## Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow

### **Benefits**

- Report Templates
- Defined Structure and Content
- Support for Electrophysiology (EP) and the Cath Lab
- Future Imaging Expansion

## Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow

# Who implements CPN?

# Why does it help Workflows?

Actor	Option Name
<b>Content Creator (Note 1)</b>	Diagnostic Cath
	PCI
	Structural Heart Interventions
	Electrophysiology Implant/Explant
<b>Content Consumer</b>	View Option
	Document Import Option
	Section Import Option
	Discrete Data Import Option

Note 1: The Content Creator shall at least support one of the options listed here.



Integrating  
the Healthcare  
Enterprise

# Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow

**CathPCI Registry**

**STS/ACC TVT Registry**

**ICD Registry**

**HL7 CDAR2**

**HL7 C-CDA**

**DICOM**

**UCUM**

**LOINC**

**SNOMED CT**

**RxNorm**

**IEEE 11073 10103**

# Clinical Document Architecture (CDA)

- HL7<sup>®</sup> CDA format for the cardiac procedure note.
- human readable narrative historically used for clinical reports.
- discrete data elements that may be used for longitudinal or population analysis or other computer processing.
- DICOM<sup>®</sup> Study associated with the procedure.
- Header, Section, Entry templates
- valueSets

# Evolving a Cardiology Procedure Note

<b>Sections</b>	
<u>Document Summary</u>	<u>Procedure Disposition</u>
<u>Medical History</u>	<u>Procedure Results</u>
<u>Allergies and Intolerances</u>	<u>Complications</u>
<u>Family History</u>	<u>Postprocedure Diagnosis</u>
<u>Social History</u>	<u>Plan of Care</u>
<u>Physical Exam</u>	<u>Key Images</u>
<u>Vital Signs</u>	<u>DICOM Object Catalog</u>
<u>Pre-Procedure Results</u>	<u>Procedure Specimens</u>
<u>Planned Procedure</u>	
<u>Procedure Indications</u>	
<u>Anesthesia</u>	
<u>Medications Administered</u>	
<u>Procedure Description</u>	



# EP C-CDA Document

## Good Health EP Clinic

### Patient Information

Name: Test, First A  
Study Date: 01/12/2015  
Medical Record #: EPNOTE1  
Birth Date: 06 08 1956  
Age: 58

Study Number: 123456

Referring Physician: Dr. IM A TESTA  
Electrophysiologist: Dr. IM A TESTA  
Fellow/PA: Dr. Misty Fontus

### Medical History

Irreversible Brain Damage from e. Hx of Therapeutic Strategies AF, Heart Transplant, ECG, LVEF Assessed, Syncope, Controlled atrial fibrillation, Primary Valvular Heart Disease, History of MI, Cardiac Arrest, Chronic Lung Disease, Ischemic Heart Disease, Cardiac Arrest Brady, Atrial Fibrillation, NYHA Class 1 Class 1, Diabetes, Sleep Apnea, Heart failure.

### Family History

The patient has the following family history: Family history of stroke.

### Medications

Thienopyridines: Ticlopidine: 50  
Low osmolal non-ionic contrast: Iomepro (Iomeron): 100

### Allergies

The patient has no known allergies.

### Vital Signs

Height: 250cms.  
Weight: 200Kgs.  
BSA (Body Surface Area): 21.1 m2

### Procedure Indications

Primary Prevention, History of Myocardial Infarction. The patient had an LV of 35%. The patient had an EP Study performed in =>1 to =<3 months that was able to induce an arrhythmia.

### Anesthesia

Local anesthesia using Lidocaine was subcutaneously infiltrated at the Right Infraclavicular area. Conscious sedation was achieved by Anesthesiology.

### Procedure Description

The risks, benefits and alternatives of conscious sedation and pacemaker-defibrillator implantation were explained to the patient in detail. Risks including, but not limited to bleeding, infection, heart block, stroke, cardiac tamponade, pneumothorax, need for open heart surgery and death were reviewed. The patient expressed verbal understanding and agreed to proceed with the procedure as outlined. Informed written consent was signed and placed in the chart prior to proceeding.

### Procedure Description

Prior to the procedure contrast venography demonstrated a patient right axillary-subclavian venous system. The patient's right chest was prepped and draped in the usual sterile fashion. Ancef was administered for prophylaxis. Local anesthesia using Lidocaine was subcutaneously infiltrated at the Right Infraclavicular area. Conscious sedation was achieved by Anesthesiology.

An incision was then made at the right above pectoralis major. Using meticulous surgical dissection and electrocautery, an above pectoralis major pocket was created. Under fluoroscopic guidance using modified Seldinger technique the axillary vein was cannulated and a guidewire was advanced to the inferior vena cava. Using a peel-away sheath, an ICD lead was advanced into the main pulmonary artery, and then withdrawn and actively floated into the right ventricular septum apex. Lead placement was confirmed in both RAO and LAO fluoroscopic views. Prior to this, with minor lead manipulation, the patient developed rapid, sustained ventricular tachycardia requiring direct current cardioversion. The lead was secured to the Above pectoralis major fascia using 0-0 Silk. A retention suture was placed using 2-0 Vicryl. The pocket was irrigated with an antibiotic solution. A Cognis 100 HE cardioverter/defibrillator was then brought to the field and attached to the lead. The SVC port was plugged. The generator was positioned in the pocket and secured to the Above pectoralis major fascia with a 0-0 silk suture. Pacing values were retested through the device and found to be adequate. Fluoroscopy demonstrated the device and lead in initial implant positions without retained surgical equipment. VT was induced via T-Wave Shock: defibrillation threshold was found to be <16 Joules. The pocket was closed using 2-0 interrupted Vicryl sutures for the pocket, 0-0 interrupted Vicryl sutures for the deep layer, 3-0 interrupted Vicryl suture for the subcutaneous layer, and a 4-0 continuous Vicryl suture for the subcuticular layer. Fibrillar was placed under the can in the pocket. Dermabond was placed over the operative site.

The patient had: Cardiac Valve Injury, CVA/Stroke, Lead Dislodgement (displacement), The patient was taken to the ICU recovery unit in stable condition.

Procedures Performed: Procedure Description - 1 Lead Single chamber ICD Implant

### Devices

#### ICD Lead

Date Implanted	Manufacturer	Model Name	Model No.	Serial No.	Date Explicated
01/12/2015	Boston Scientific	Contour Epi-Patch	497-13	PKM654321	

#### ICD Pulse Generator

Date Implanted	Manufacturer	Model Name	Model No.	Serial No.	Date Explicated
01/12/2015	Boston Scientific	Cognis 100 HE	N118	QAZ1123456	

### Test Pacing Characteristics

Lead Placement	Tensing Intensity Amplitude Mean (mV)	Impedance Value (ohms)	Pacing Threshold Amplitude (V)	Pacing Threshold Pulse width (ms)	High Output Stim Results
RV Lead	3.9	0.983	7.89	25	No Result

### Final Device Programming

#### Ventricular Tachycardia Zone

Detection Interval: 20 ms  
ATP type: Burst  
Number of ATP Sequences: 45  
Shock Energy 1: 85 J  
Number of Shocks 1: 1

Shock Energy 2: 65 J  
Number of Shocks 2: 2

#### Ventricular Fibrillation Zone

Detection Interval: 25 ms

#### Monitor Zone

Detection Interval: 15 ms

#### Bradycardia Parameters

Mode: AAI  
Lower Rate Limit: 35 bpm  
RV Pacing Amplitude: 8.9 V  
RV Pacing Pulse Width: 0.983 ms  
RV Intrinsic Amplitude Mean: 3.5 mV

### DFT Results

Induction Method	Induced Rhythm	Shock Energy (Joules)	Impedance (ohms)	Configuration	Sensitivity	Post DFT Rhythm
T-Wave Shock	VT	16	79	Configuration: Anode Loc: RV Electrode1: Coil Cathode: RV Electrode1: Can	8.5	

### Conclusion

The patient underwent successful single chamber ICD implantation for primary prophylaxis from sudden cardiac death.

### Plan

Bed Rest (x4 hours)

Dr. IM A TESTA was present for the entire procedure, supervised its performance, and participated in all the key and critical portions as needed.

Updated by Nurse Katchet on 6/27/2014 4:55:43 PM.

Dr. IM A TESTA electronically signed on 6/27/2014 4:57:23 PM with status of Final

```
1 <xml version="1.0" encoding="UTF-8" >
2 <!--
3 <!--
4 <!--
5 <!--
6 <!--
7 <!--
8 <!--
9 <!--
10 <!--
11 <!--
12 <!--
13 <!--
14 <!--
15 <!--
16 <!--
17 <!--
18 <!--
19 <!--
20 <!--
21 <!--
22 <!--
23 <!--
24 <!--
25 <!--
26 <!--
27 <!--
28 <!--
29 <!--
30 <!--
31 <!--
32 <!--
33 <!--
34 <!--
35 <!--
36 <!--
37 <!--
38 <!--
39 <!--
40 <!--
41 <!--
42 <!--
43 <!--
44 <!--
45 <!--
46 <!--
47 <!--
48 <!--
49 <!--
50 <!--
51 <!--
52 <!--
53 <!--
54 <!--
55 <!--
56 <!--
57 <!--
58 <!--
59 <!--
60 <!--
61 <!--
62 <!--
63 <!--
64 <!--
65 <!--
66 <!--
67 <!--
68 <!--
69 <!--
70 <!--
71 <!--
72 <!--
73 <!--
74 <!--
75 <!--
76 <!--
77 <!--
78 <!--
79 <!--
80 <!--
81 <!--
82 <!--
83 <!--
84 <!--
85 <!--
86 <!--
87 <!--
88 <!--
89 <!--
90 <!--
91 <!--
92 <!--
93 <!--
94 <!--
95 <!--
96 <!--
97 <!--
98 <!--
99 <!--
100 <!--
101 <!--
102 <!--
103 <!--
104 <!--
105 <!--
106 <!--
107 <!--
108 <!--
109 <!--
110 <!--
111 <!--
112 <!--
113 <!--
114 <!--
115 <!--
116 <!--
117 <!--
118 <!--
119 <!--
120 <!--
121 <!--
122 <!--
123 <!--
124 <!--
125 <!--
126 <!--
127 <!--
128 <!--
129 <!--
130 <!--
131 <!--
132 <!--
133 <!--
134 <!--
135 <!--
136 <!--
137 <!--
138 <!--
139 <!--
140 <!--
141 <!--
142 <!--
143 <!--
144 <!--
145 <!--
146 <!--
147 <!--
148 <!--
149 <!--
150 <!--
151 <!--
152 <!--
153 <!--
154 <!--
155 <!--
156 <!--
157 <!--
158 <!--
159 <!--
160 <!--
161 <!--
162 <!--
163 <!--
164 <!--
165 <!--
166 <!--
167 <!--
168 <!--
169 <!--
170 <!--
171 <!--
172 <!--
173 <!--
174 <!--
175 <!--
176 <!--
177 <!--
178 <!--
179 <!--
180 <!--
181 <!--
182 <!--
183 <!--
184 <!--
185 <!--
186 <!--
187 <!--
188 <!--
189 <!--
190 <!--
191 <!--
192 <!--
193 <!--
194 <!--
195 <!--
196 <!--
197 <!--
198 <!--
199 <!--
200 <!--
201 <!--
202 <!--
203 <!--
204 <!--
205 <!--
206 <!--
207 <!--
208 <!--
209 <!--
210 <!--
211 <!--
212 <!--
213 <!--
214 <!--
215 <!--
216 <!--
217 <!--
218 <!--
219 <!--
220 <!--
221 <!--
222 <!--
223 <!--
224 <!--
225 <!--
226 <!--
227 <!--
228 <!--
229 <!--
230 <!--
231 <!--
232 <!--
233 <!--
234 <!--
235 <!--
236 <!--
237 <!--
238 <!--
239 <!--
240 <!--
241 <!--
242 <!--
243 <!--
244 <!--
245 <!--
246 <!--
247 <!--
248 <!--
249 <!--
250 <!--
251 <!--
252 <!--
253 <!--
254 <!--
255 <!--
256 <!--
257 <!--
258 <!--
259 <!--
260 <!--
261 <!--
262 <!--
263 <!--
264 <!--
265 <!--
266 <!--
267 <!--
268 <!--
269 <!--
270 <!--
271 <!--
272 <!--
273 <!--
274 <!--
275 <!--
276 <!--
277 <!--
278 <!--
279 <!--
280 <!--
281 <!--
282 <!--
283 <!--
284 <!--
285 <!--
286 <!--
287 <!--
288 <!--
289 <!--
290 <!--
291 <!--
292 <!--
293 <!--
294 <!--
295 <!--
296 <!--
297 <!--
298 <!--
299 <!--
300 <!--
301 <!--
302 <!--
303 <!--
304 <!--
305 <!--
306 <!--
307 <!--
308 <!--
309 <!--
310 <!--
311 <!--
312 <!--
313 <!--
314 <!--
315 <!--
316 <!--
317 <!--
318 <!--
319 <!--
320 <!--
321 <!--
322 <!--
323 <!--
324 <!--
325 <!--
326 <!--
327 <!--
328 <!--
329 <!--
330 <!--
331 <!--
332 <!--
333 <!--
334 <!--
335 <!--
336 <!--
337 <!--
338 <!--
339 <!--
340 <!--
341 <!--
342 <!--
343 <!--
344 <!--
345 <!--
346 <!--
347 <!--
348 <!--
349 <!--
350 <!--
351 <!--
352 <!--
353 <!--
354 <!--
355 <!--
356 <!--
357 <!--
358 <!--
359 <!--
360 <!--
361 <!--
362 <!--
363 <!--
364 <!--
365 <!--
366 <!--
367 <!--
368 <!--
369 <!--
370 <!--
371 <!--
372 <!--
373 <!--
374 <!--
375 <!--
376 <!--
377 <!--
378 <!--
379 <!--
380 <!--
381 <!--
382 <!--
383 <!--
384 <!--
385 <!--
386 <!--
387 <!--
388 <!--
389 <!--
390 <!--
391 <!--
392 <!--
393 <!--
394 <!--
395 <!--
396 <!--
397 <!--
398 <!--
399 <!--
400 <!--
401 <!--
402 <!--
403 <!--
404 <!--
405 <!--
406 <!--
407 <!--
408 <!--
409 <!--
410 <!--
411 <!--
412 <!--
413 <!--
414 <!--
415 <!--
416 <!--
417 <!--
418 <!--
419 <!--
420 <!--
421 <!--
422 <!--
423 <!--
424 <!--
425 <!--
426 <!--
427 <!--
428 <!--
429 <!--
430 <!--
431 <!--
432 <!--
433 <!--
434 <!--
435 <!--
436 <!--
437 <!--
438 <!--
439 <!--
440 <!--
441 <!--
442 <!--
443 <!--
444 <!--
445 <!--
446 <!--
447 <!--
448 <!--
449 <!--
450 <!--
451 <!--
452 <!--
453 <!--
454 <!--
455 <!--
456 <!--
457 <!--
458 <!--
459 <!--
460 <!--
461 <!--
462 <!--
463 <!--
464 <!--
465 <!--
466 <!--
467 <!--
468 <!--
469 <!--
470 <!--
471 <!--
472 <!--
473 <!--
474 <!--
475 <!--
476 <!--
477 <!--
478 <!--
479 <!--
480 <!--
481 <!--
482 <!--
483 <!--
484 <!--
485 <!--
486 <!--
487 <!--
488 <!--
489 <!--
490 <!--
491 <!--
492 <!--
493 <!--
494 <!--
495 <!--
496 <!--
497 <!--
498 <!--
499 <!--
500 <!--
501 <!--
502 <!--
503 <!--
504 <!--
505 <!--
506 <!--
507 <!--
508 <!--
509 <!--
510 <!--
511 <!--
512 <!--
513 <!--
514 <!--
515 <!--
516 <!--
517 <!--
518 <!--
519 <!--
520 <!--
521 <!--
522 <!--
523 <!--
524 <!--
525 <!--
526 <!--
527 <!--
528 <!--
529 <!--
530 <!--
531 <!--
532 <!--
533 <!--
534 <!--
535 <!--
536 <!--
537 <!--
538 <!--
539 <!--
540 <!--
541 <!--
542 <!--
543 <!--
544 <!--
545 <!--
546 <!--
547 <!--
548 <!--
549 <!--
550 <!--
551 <!--
552 <!--
553 <!--
554 <!--
555 <!--
556 <!--
557 <!--
558 <!--
559 <!--
560 <!--
561 <!--
562 <!--
563 <!--
564 <!--
565 <!--
566 <!--
567 <!--
568 <!--
569 <!--
570 <!--
571 <!--
572 <!--
573 <!--
574 <!--
575 <!--
576 <!--
577 <!--
578 <!--
579 <!--
580 <!--
581 <!--
582 <!--
583 <!--
584 <!--
585 <!--
586 <!--
587 <!--
588 <!--
589 <!--
590 <!--
591 <!--
592 <!--
593 <!--
594 <!--
595 <!--
596 <!--
597 <!--
598 <!--
599 <!--
600 <!--
601 <!--
602 <!--
603 <!--
604 <!--
605 <!--
606 <!--
607 <!--
608 <!--
609 <!--
610 <!--
611 <!--
612 <!--
613 <!--
614 <!--
615 <!--
616 <!--
617 <!--
618 <!--
619 <!--
620 <!--
621 <!--
622 <!--
623 <!--
624 <!--
625 <!--
626 <!--
627 <!--
628 <!--
629 <!--
630 <!--
631 <!--
632 <!--
633 <!--
634 <!--
635 <!--
636 <!--
637 <!--
638 <!--
639 <!--
640 <!--
641 <!--
642 <!--
643 <!--
644 <!--
645 <!--
646 <!--
647 <!--
648 <!--
649 <!--
650 <!--
651 <!--
652 <!--
653 <!--
654 <!--
655 <!--
656 <!--
657 <!--
658 <!--
659 <!--
660 <!--
661 <!--
662 <!--
663 <!--
664 <!--
665 <!--
666 <!--
667 <!--
668 <!--
669 <!--
670 <!--
671 <!--
672 <!--
673 <!--
674 <!--
675 <!--
676 <!--
677 <!--
678 <!--
679 <!--
680 <!--
681 <!--
682 <!--
683 <!--
684 <!--
685 <!--
686 <!--
687 <!--
688 <!--
689 <!--
690 <!--
691 <!--
692 <!--
693 <!--
694 <!--
695 <!--
696 <!--
697 <!--
698 <!--
699 <!--
700 <!--
701 <!--
702 <!--
703 <!--
704 <!--
705 <!--
706 <!--
707 <!--
708 <!--
709 <!--
710 <!--
711 <!--
712 <!--
713 <!--
714 <!--
715 <!--
716 <!--
717 <!--
718 <!--
719 <!--
720 <!--
721 <!--
722 <!--
723 <!--
724 <!--
725 <!--
726 <!--
727 <!--
728 <!--
729 <!--
730 <!--
731 <!--
732 <!--
733 <!--
734 <!--
735 <!--
736 <!--
737 <!--
738 <!--
739 <!--
740 <!--
741 <!--
742 <!--
743 <!--
744 <!--
745 <!--
746 <!--
747 <!--
748 <!--
749 <!--
750 <!--
751 <!--
752 <!--
753 <!--
754 <!--
755 <!--
756 <!--
757 <!--
758 <!--
759 <!--
760 <!--
761 <!--
762 <!--
763 <!--
764 <!--
765 <!--
766 <!--
767 <!--
768 <!--
769 <!--
770 <!--
771 <!--
772 <!--
773 <!--
774 <!--
775 <!--
776 <!--
777 <!--
778 <!--
779 <!--
780 <!--
781 <!--
782 <!--
783 <!--
784 <!--
785 <!--
786 <!--
787 <!--
788 <!--
789 <!--
790 <!--
791 <!--
792 <!--
793 <!--
794 <!--
795 <!--
796 <!--
797 <!--
798 <!--
799 <!--
800 <!--
801 <!--
802 <!--
803 <!--
804 <!--
805 <!--
806 <!--
807 <!--
808 <!--
809 <!--
810 <!--
811 <!--
812 <!--
813 <!--
814 <!--
815 <!--
816 <!--
817 <!--
818 <!--
819 <!--
820 <!--
821 <!--
822 <!--
823 <!--
824 <!--
825 <!--
826 <!--
827 <!--
828 <!--
829 <!--
830 <!--
831 <!--
832 <!--
833 <!--
834 <!--
835 <!--
836 <!--
837 <!--
838 <!--
839 <!--
840 <!--
841 <!--
842 <!--
843 <!--
844 <!--
845 <!--
846 <!--
847 <!--
848 <!--
849 <!--
850 <!--
851 <!--
852 <!--
853 <!--
854 <!--
855 <!--
856 <!--
857 <!--
858 <!--
859 <!--
860 <!--
861 <!--
862 <!--
863 <!--
864 <!--
865 <!--
866 <!--
867 <!--
868 <!--
869 <!--
870 <!--
871 <!--
872 <!--
873 <!--
874 <!--
875 <!--
876 <!--
877 <!--
878 <!--
879 <!--
880 <!--
881 <!--
882 <!--
883 <!--
884 <!--
885 <!--
886 <!--
887 <!--
888 <!--
889 <!--
890 <!--
891 <!--
892 <!--
893 <!--
894 <!--
895 <!--
896 <!--
897 <!--
898 <!--
899 <!--
900 <!--
901 <!--
902 <!--
903 <!--
904 <!--
905 <!--
906 <!--
907 <!--
908 <!--
909 <!--
910 <!--
911 <!--
912 <!--
913 <!--
914 <!--
915 <!--
916 <!--
917 <!--
918 <!--
919 <!--
920 <!--
921 <!--
922 <!--
923 <!--
924 <!--
925 <!--
926 <!--
927 <!--
928 <!--
929 <!--
930 <!--
931 <!--
932 <!--
933 <!--
934 <!--
935 <!--
936 <!--
937 <!--
938 <!--
939 <!--
940 <!--
941 <!--
942 <!--
943 <!--
944 <!--
945 <!--
946 <!--
947 <!--
948 <!--
949 <!--
950 <!--
951 <!--
952 <!--
953 <!--
954 <!--
955 <!--
956 <!--
957 <!--
958 <!--
959 <!--
960 <!--
961 <!--
962 <!--
963 <!--
964 <!--
965 <!--
966 <!--
967 <!--
968 <!--
969 <!--
970 <!--
971 <!--
972 <!--
973 <!--
974 <!--
975 <!--
976 <!--
977 <!--
978 <!--
979 <!--
980 <!--
981 <!--
982 <!--
983 <!--
984 <!--
985 <!--
986 <!--
987 <!--
988 <!--
989 <!--
990 <!--
991 <!--
992 <!--
993 <!--
994 <!--
995 <!--
996 <!--
997 <!--
998 <!--
999 <!--
1000 <!--
1001 <!--
1002 <!--
1003 <!--
1004 <!--
1005 <!--
1006 <!--
1007 <!--
1008 <!--
1009 <!--
1010 <!--
1011 <!--
1012 <!--
1013 <!--
1014 <!--
1015 <!--
1016 <!--
1017 <!--
1018 <!--
1019 <!--
1020 <!--
1021 <!--
1022 <!--
1023 <!--
1024 <!--
1025 <!--
1026 <!--
1027 <!--
1028 <!--
1029 <!--
1030 <!--
1031 <!--
1032 <!--
1033 <!--
1034 <!--
1035 <!--
1036 <!--
1037 <!--
1038 <!--
1039 <!--
1040 <!--
1041 <!--
1042 <!--
1043 <!--
1044 <!--
1045 <!--
1046 <!--
1047 <!--
1048 <!--
1049 <!--
1050 <!--
1051 <!--
1052 <!--
1053 <!--
1054 <!--
1055 <!--
1056 <!--
1057 <!--
1058 <!--
1059 <!--
1060 <!--
1061 <!--
1062 <!--
10
```

### Family History - Cardiac Section -

- CDA Document Level Template
  - Cardiac Procedure Note (1.0)
- CDA Header Level Template
  - authenticator - Cardiac (1.0)
  - author - Cardiac (1.0)
  - authorization - Cardiac (1.0)
- CDA Person
  - componentOf - Cardiac (1.0)
  - custodian - Cardiac (1.0)
  - documentationOf - Cardiac (1.0)
  - inFulfillmentOf - Cardiac (1.0)
  - legalAuthenticator - Cardiac (1.0)
  - recordTarget - Cardiac (1.0)
- CDA Section Level Template
  - Allergies and Intolerances - Cardiac Section (1.0)
  - Anesthesia Section (V2)
  - Complications - Cardiac Section (1.0)
  - DICOM Object Catalog Section - DCM 1211
  - Document Summary Section (1.0)
  - Family History - Cardiac Section (1.0)**
  - Key Images - Cardiac Section (1.0)

#### History (9)

<b>Id</b>	1.3.6.1.4.1.19376.1.4.1.2.31	<b>Effective Date</b>	valid from 2017-01-25 19:50:08
<b>Status</b>	Draft	<b>Version Label</b>	1.0
<b>Name</b>	FamilyHistoryCardiacSectionV3	<b>Display Name</b>	Family History - Cardiac Section

▶ Description

<b>Context</b>	Parent nodes of template element with id 1.3.6.1.4.1.19376.1.4.1.2.31
<b>Classification</b>	CDA Section Level Template
<b>Open/Closed</b>	Open (other than defined elements are allowed)
<b>Used by / Uses</b>	▶ Used by 0 transactions and 1 template, Uses 1 template

**Relationship**  
 Specialization: template 2.16.840.1.113883.10.12.201 (2005-09-07)  
 Adaptation: template 2.16.840.1.113883.10.20.22.2.15 (2015-08-01)

**Example** ▶ Example

Expand All Collapse All

Item	DT	Card	Conf	Description	Label
▼ cda:section					FamilyHistoryCardiacSectionV3
▼ cda:templateId	II	1 ... 1	M		FamilyHistoryCardiacSectionV3
@extension	st	1 ... 1	F	2017-07-17	
@root	uid	1 ... 1	F	1.3.6.1.4.1.19376.1.4.1.2.31	
▼ cda:code	CE	1 ... 1	M		FamilyHistoryCardiacSectionV3
@code		1 ... 1	F	10157-6	
@codeSystem	CONF	1 ... 1	F	2.16.840.1.113883.6.1	
cda:title	ST	1 ... 1			FamilyHistoryCardiacSectionV3
cda:text	SD.TEXT	1 ... 1	M		FamilyHistoryCardiacSectionV3

# Benefits

## Why CPN in the workflow process

- Facilitates workflows
- Standard for interchange in workflow
  - Diabetes means diabetes
- Consumable discrete data
  - Can view report and consume the data (versus PDF)
  - Registry consumption

## Device Registries

- Nomenclature Standard
  - SNOMED CT, LOINC, RxNorm, IEEE11703, Others
- HIT and Registry consumption
- Standard look for report
- Significant reduction in transcription services
- Quicker turnaround of Procedure Note
- Discrete Data agrees with report



Integrating  
the Healthcare  
Enterprise

## 2017 Webinar Agenda

1. Cardiology Interoperability: Executive Four-Point Summary
2. Three Ways IHE Can Improve Your Cardiac Service Line Communications with Other Departments
3. Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow
- 4. Four Ways Interoperability Contributes to Improving Care Delivery in Your Facility**
5. Call for Proposals
6. Questions and Answers



Integrating  
the Healthcare  
Enterprise

## How Interoperability Contributes to Improving Care Delivery at Your Hospital

**Demographics**

**Laboratory Results**

**Diagnostic Images**

**Electronic Prescriptions**

# Promote Interoperability in Your Institution





Integrating  
the Healthcare  
Enterprise

## Upcoming Cardiology Events

### **Call for Proposals**

Opens – Aug 4, 2017

Closes – Sept 15, 2017

### **Registration for Connectathon**

Opens – Sept 6, 2017

Closes – Oct 6, 2017



Integrating  
the Healthcare  
Enterprise

# IHE Cardiology Planning Committee

## **Responsibilities**

- Identifying priority issues for the cardiology community
  - Liaison to sponsor organizations
- Soliciting and developing IHE Profile Proposals
- Evaluation of Technical Committee work
- Marketing IHE Cardiology profiles to user community

## **Contact Information**

Secretary, Paul Dow

[pdow@acc.org](mailto:pdow@acc.org)

Co-Chair, Gerald Serwer, MD

[gserwer@med.umich.edu](mailto:gserwer@med.umich.edu)

Co-Chair, David Slotwiner, MD

[djs2001@med.cornell.edu](mailto:djs2001@med.cornell.edu)

Committee's wiki page

[http://wiki.ihe.net/index.php?title=Cardiology\\_Planning\\_Committee](http://wiki.ihe.net/index.php?title=Cardiology_Planning_Committee)

# IHE Cardiology Technical Committee

## **Responsibilities**

- Development of IHE Profiles and white papers
- Maintenance of IHE Cardiology Technical Frameworks
- Liaison with other IHE domains
- Support for Planning Committee marketing

## **Contact Information**

Secretary, Paul Dow

[pdow@acc.org](mailto:pdow@acc.org)

Co-Chair, Nick Gawrit

[ngawrit@heartbase.net](mailto:ngawrit@heartbase.net)

Co-Chair, Chris Melo

[chris.melo@philips.com](mailto:chris.melo@philips.com)

Committee's wiki page

[http://wiki.ihe.net/index.php?title=Cardiology\\_Technical\\_Committee](http://wiki.ihe.net/index.php?title=Cardiology_Technical_Committee)



Integrating  
the Healthcare  
Enterprise

## For More Information

### Links to IHE Resources

[IHE Cardiology Domain Page](#)

[Technical Committee Wiki](#)

To become an IHE member and contribute to the Planning or Technical Committee contact Paul Dow, IHE Cardiology Secretary [pdow@acc.org](mailto:pdow@acc.org)

***The Call for Proposals is open until Friday, Sept 15<sup>th</sup>, 2017.***

If you have ideas for work items and would like assistance assembling and submitting the forms please contact Paul Dow, IHE Cardiology Secretary [pdow@acc.org](mailto:pdow@acc.org)

For more details on IHE's domains and its processes please refer to other webinars at <http://www.ihe.net/Webinars>



Integrating  
the Healthcare  
Enterprise

## 2017 Webinar Agenda

1. Cardiology Interoperability: Executive Four-Point Summary
2. Three Ways IHE Can Improve Your Cardiac Service Line Communications with Other Departments
3. Cardiac Procedure Note [CPN] Help Clinicians Optimize EP/Cath Lab Workflow
4. Four Ways Interoperability Contributes to Four Ways Interoperability Contributes to Improving Care Delivery in Your Facility
5. Call for Proposals
- 6. Questions and Answers**

The IHE logo consists of the letters 'IHE' in a bold, dark blue, sans-serif font. A vertical line is positioned to the right of the letters, separating them from the tagline.

**IHE**

Integrating  
the Healthcare  
Enterprise

A stylized globe showing the continents of North and South America, rendered in a light purple color. It is positioned in the lower-left quadrant of the slide.

***Thank you for your  
attention!***