IHE-RO Technical Committee
Face-to-Face
Sep 27-29, 2015 at 8:30-5:30, Sep 30 8:30-12:00 ET
Melbourne Fl, @ Sun Nuclear

Technical Committee Chairs:
Scott Hadley, PhD
Chris Pauer, Accuray

IHERO Task Force Co-Chairs
Dick Fraass, Ph.D., FAAPM, FASTRO, FACR
John Buatti, MD

Mission Statement: *The American Society for Radiology Oncology (ASTRO) has formed a multi-society Task Force to undertake an initiative to promote the Integration of the Healthcare Enterprise (IHE) – Radiation Oncology (RO), fostering seamless connectivity and integration of radiotherapy equipment and the patient health information systems. The Task Force will include members from ASTRO, RSNA, American Association of Physicists in Medicine (AAPM), the American College of Radiology (ACR) and the Medical Imaging and Technology Alliance (MITA). In addition, members of the International community have also been invited to participate in IHE-RO. The IHE-RO Task Force, in close collaboration with radiotherapy product manufacturers, will develop appropriate integration profiles for radiation therapy and setup a demonstration of seamless communication among the full array of radiotherapy products.*

Attendees:

Name	Affiliation	Email	9/27/15	9/28/15	9/29/15	9/30/15
Chris Pauer	Accuray	cpauer@accuray.com	X	X	X	X
Scott Hadley	UMich	swhadley@med.umich.edu	X	X	X	X
Walter Bosch	Wash. Univ.	bosch@wustl.edu	X	X	X	X
Uli Busch	Varian	Ulrich.busch@varian.com	X	X	X	X
Koua Yang	Philips	koua.yang@philips.com	X	X	X	X
Sven Siekmann	Brainlab	Sven.siekmann@brainlab.com	X	X	X	X
Rickard Holmberg	RaySearch	Rickard.holmberg@raysearchlabs.com	X	X	X	X
Mikael Bertze	RaySearch	mikael.bertze@raysearchlabs.com	X	X	X	X
Jim Percy	Elekta	Jim.percy@elekta.com	X	X	X	X
Wouter Vreeman	ICT	wouter.vreeman@ict.nl		W		
Marco Kemper	ICT	Marco.kemper@ict.nl		W		
Bridget Koontz	Duke Univ.	bridget.koontz@duke.edu			W	
Adam Earwicker	Varian	adam.earwicker@varian.com			W	
Crystal Carter	ASTRO	Crystal.Carter@astro.org			W	
Shannon Regan	ASTRO	Shannon.Regan@astro.org			W	

X = In person W = via Webex ()

Minutes:

I. Call to Order (Sept. 27, 2015 at 9:00 am EDT) – a quorum was declared.
   a. Review Agenda
   b. Other broad topics to add – **Updated agenda was approved without objections**.

c. Minutes from last meetings
    i. Minutes of July, Aug TC teleconferences are on ihe-ro.org for review and approval on 9/28.
d. Schedule time for ICT – Sprint update on Tuesday (time TBA)
e. Schedule time for PC

II. Business
a. Topic 1: Level Set
    i. Updates on IHE-RO activities
        1. Planning, Oversight, Steering Committees – Chris updated the TC on activities of the IHE-RO PC and steering committee.
        2. Other Updates – Discussion of changes in IHE membership pricing structure.
    ii. Epic Teleconferences
        1. An IHE-RO group was created to work on RO-HIS issues, but has not yet begun work.
        2. IHE has a joint workgroup to address IHE HL7 issues (see http://wiki.ihe.net/index.php?title=IHE-HL7_Joint_Workgroup)
        3. What is missing? Someone interested. Vendor Product possibility. Prioritization from customer
        4. Possible drivers? Regulatory pressure. Product possibility (MyChart, Healthshare Patient Community RO)
b. Topic 3: Review of Material presented to Planning Committee
    i. Documents for the following proposed Use Cases are available at http://wiki.ihe.net/index.php?title=Radiation_Oncology#Use_Cases_Being_Developed_into_Integration_Profiles
    ii. Discuss what was presented, what needs to change (listed in order of scores)
        1. **Treatment Delivery Device Integration** – covered by TDPC, TDIC, treatment delivery workflow profiles.
            a. What additional common workflows in the RT clinic are not covered by the existing Profiles? E.g., patient QA.
            b. Treatment Record consistent content is not yet addressed
        2. **Radiation Oncology Workflow Exchange with HIS (ROWE)** – Scope? CPRO is a start, but addresses only patient identification. See IHE-ITI Patient Information Reconciliation (PIR) Profile. A working relationship with HIS manufacturer(s) and HL7 expertise is needed.
            a. More detailed information regarding the scope of this Use Case is needed.
        3. **User Case Anonymization** – See IHE-ITI Anonymization Handbook. The IHE-RAD TF1 Teaching File and Clinical Trials Export (TCE) Profile may be good a starting point.
            a. To what extent is this an interoperability problem?
            b. What is the deliverable? RO-TCE Profile? RO-specific anonymization handbook?
            c. Are there Rad Onc specific considerations?
            d. What are the legal and regulatory requirements? HIPAA? IRB?
        4. **Brachytherapy** – DICOM standard (1st gen) is in place – a Brachytherapy Profile is in development in DICOM Brachy Sub-group
            a. A workflow profile is needed for brachytherapy treatment delivery.
        5. **Authentication / Authorization** – See IHE-ITI Enterprise User Authentication (EUA) and Cross-Enterprise User Assertion (XUA) Profiles as a starting point.
            a. Is any additional profile development required?
            b. Any Rad Onc specific issues?
        6. **Survivorship Care Plan** – communicate ASTRO Survivorship Care Plan Template to TMS. Gather, store, communicate patient care information from TMS and EHR for follow-up care of RT.
            a. What is the workflow to gather these data?
            b. Where are the data stored?
            c. How are they to be communicated?

d. Where are they to be reviewed?

7. **Off-line Review 3rd Party Imaging** – Image content is addressed by TPIC, TDIC. Workflow is addressed by IPDW, DPDW.
    a. Existing imaging applications do not completely and consistently implement DICOM.
8. **Decubitus Patient Positioning in RT Workflow** – Could be handled as an Option in BRTO-II (require consistent handling of patient geometry and labeling).

[Lunch break 9/27, 12:30-1:30pm]

iii. ASTRO, MITA, ROSSI – no update at this time

iv. DICOM update presented by Uli

1. 2nd Gen RT is top priority
2. Sup 185 (Content Assessment Result IOD) has been published for Public Comment through Nov 2, 2015. Expected to be approved for Letter Ballot at the Nov WG-06 meeting.
3. Sup 184 (Brachy Application Setup Delivery Instruction IOD) is now in Letter Ballot through Nov 2.
4. CP 1504 (Accessory Coding) to be discussed with respect to TDPC.
5. CP 1516 (Adds data to the Person or Device Macro) is referenced in QAPV Profile.
6. CP 1488 (Exposure data in RT Image) to be discussed with respect to TDIC.
7. CP 1502 (Pixel Intensity Relationship) addresses issues in TDIC and TPIC.
8. ROI Template is to be developed as a DICOM IOD or SR template.
9. Sup 147 – Approval is anticipated for trial implementation in Nov 2015. Some concerns persist in WG-06 that trial implementations may continue into production versions. Vendors should plan to being development of trial implementations in 2016.
10. Sup 175 (Radiations) and 176 (Non-C-arm Radiations) are expected to be through Public Comment by the second half of 2016. Sup 177 (Dose) by the end of 2016.
11. Radiation Dose Structured Report (RDSR) – the current RDSR does not work for CBCT. The IHE-RAD REM (Radiation Exposure Monitoring) profile is also not appropriate. A Patient RDSR (Sup 191) is in development.
12. A Planning Record IOD (companion object) is in development to capture information treatment planning meta-information.

v. NEMA/AdvaMed

1. The RT2 (Safety Standard with FDA) and RT3 (Machine Characterization) are being developed under the AAMI (Association for the Advancement of Medical Instrumentation).
2. These efforts will continue under AdvaMed (contact is Ruey Dempsey, V. Pres of Technology and Regulatory Affairs).

c. Topic 3.5 RX Survey Results – Scott reviewed results of the Prescription Survey

i. Summary points from survey results

- Overall radiation oncology clinics include many of the same items in their treatment prescription.
    - 90% and above reported they include total dose, technique, number of fractions, fractions per week, and dose per fraction
- The majority of prescription items are entered in the prescription by radiation oncologsts
    - 100% reported that organ at risk and motion management strategy were entered by the radiation oncologists
- Nine out of fifteen prescription items were reported to be used by therapists 100% of the time

- This includes technique, prescription coverage goals, normalization isodose surface, motion management strategy, mode, fractions per week, dose per fractions, bolus and beam energy
  - Majority of individuals reported they have a separate treatment planning directive or place to communicate planning goals
    - Respondents mostly reported they have a separate form where they are able to fill out the treatment goals

ii. Discussion of variations in prescription workflow, what actors are involved, minimum requirements for display of information by consumers. Different consumers may need to display different subsets of the prescription, but all information must be preserved.

[Adjourn for the day 9/27 at 5:00pm]
[Resume on 9/28 at 8:50am]

d. Topic 5.5: DICOM Content Template – Uli reviewed reorganization of DICOM Content specification in Volume III, Chapter 7 used to organize attribute requirements as a library. This approach will bring together IHE-RO usage requirements for DICOM IODs and Modules in one place and will replace attribute requirements in Integration Profile text by references to IOD sections in Chapter 7. The IOD sections in Chapter 7.3 identify required Modules and reference the appropriate Module Sections in 7.4. Module sections contain attribute usage requirements for a specific context or clinical state.
   i. Chapter 7 material does not reference specific Integration Profiles. Instead, usage context and roles are abstracted and the abstract categories are referenced in Transaction requirements in Volume II.
   ii. DICOM Content Template sections are being prepared for use in BRTO-II, TPPC, TPIC, TDPC, TDIC, TDW-II, CDEB, Brachy, and QAPV (to be re-formatted) Profiles.
   iii. Organization of Module definitions and maintenance of Chapter 7 was discussed. Variations in attribute requirements per usage category could be maintained with each item of the Module table or by adding new tables to override requirements in a particular context.
   iv. A list of Chapter 7 Sections is maintained on the Profile page of the ihe-ro.org wiki.
e. Update from Mary Jungers 9/28/15 – The TPPC, TPIC, TDPC, TDIC profiles are expected to be released for public comment next week.

f. Topic 10: DPDW update
   i. The DPDW working group reported progress from their summer meeting in Malaga in June 2015. Approximately 30 Transactions have been identified.
   ii. DICOM Sup 160 Patient Positioning and Workflow is in development.
   iii. Several outstanding issues remain.
      1. The scoping/granularity of instructions and number of instructions (procedure steps) are being discussed.
      2. How to establish subscription to UPS service – may require definition of some new services, e.g., a per-station subscription service.
      3. An interrupt/suspended state is needed.

g. Topic 13: ICT Update – Wouter Vreeman, Martin
   i. Update on the last 4 months
      1. Resolved Connectathon issues 40-46, release of updated profiles
      2. Implemented changes for MMRO-III, update MMRO-II test tool to use user-defined datasets
      3. Dataset check tool, check option to start scenario from command line with parameter, UPS server bug fix
   ii. Planning up to the end of contract (Feb 2016) was reviewed
   iii. Sprint 19 overview – ended 9/25/15
   iv. Sprint 19 results
   v. Issue list

1. MMRO-II data incorrectly coded
2. MMRO-II archive scenario incorrectly requires patient position for REG
3. BRTO structure set image reference incorrectly requires contours on every slice

vi. Sprint 20 plans
vii. Demo of dataset check tool
viii. Media Validator Test Tools
1. Make it easy to add/adjust content check rules
2. Use Excel as intermediate format content validation rules and IHE-RO test tool documentation
3. On-the-fly addition of new content validation rules to a media validator application
4. Initial support for TPPC, TPIC, TDPC, TDIC
5. Data flow: .Doc files → .csv files (module/rules, IOD tables) → module tables/rules, VB.net code
6. Uses existing DICOM definition files and extends by applying additional Visual Basic rules.

ix. Feedback/Questions
1. Marco will post prototype code on github
2. Add backlog task to Review TDW-II changes based on recent profile updates.

h. Topic 6: Query / Retrieve
i. Koua reviewed the Q/R Use Case and Clinical Impact Statement (ihe-ro.org), and a draft of the Query Retrieve Profile.
ii. Options that can be supported with the DICOM C-FIND model were discussed. Three levels were considered:
1. A basic Q/R mode supports DICOM required query keys and provides instance UIDs for retrieval of objects
2. An enhanced hierarchical query model that includes RT-specific attributes, e.g., RT Plan Label, Name, … and Referenced Structure Sets
3. A full relational query that can return related object references.

iii. Instance-level C-MOVE is needed with three Actors:
1. C-MOVE SCU
2. C-MOVE SCP/C-STORE SCU
3. C-STORE SCP

iv. Support for matching (M) and return (R) keys should be specified in the DICOM Content requirements.

[Lunch break 9/27, 12:30-1:30pm]

v. The Study Root query keys for Study, Series, Patient,… modules were reviewed. A preliminary set of required attributes to be returned was discussed.

i. Topic 5: ROI Template
i. Walter presented a draft of a DICOM ROI Template Supplement
ii. Discussion included textual and programmatic instructions for segmentation
iii. A reference to online protocol text was added.
iv. Some clarification of scope information is needed before presentation to DICOM WG-06.
v. ACTION 150906: Walter to strengthen Use Case Information to Supplement draft.

j. Topic 2: Connectathon Update
i. This year – Walter presented a preliminary report of Connectathon results
ii. Things to improve / change
1. Concern was expressed that two Connectathons per year may not be sustainable.
2. Long time until re-test if there is only one annual test event.
3. Good attendance is more important than frequency of test events.
4. Informal testing does have value, but may not be worth the cost.
5. Management needs to commit resources to testing.
6. Diminished connectivity issues – victim of own success?
7. Value of Test Results? Not just about "gold stars".

iii. Mandate for Vendors to Support Profiles
    1. Re-commitment is needed from high-level vendor management.

[Adjourn for the day 9/28 at 5:55pm]
[Resume on 9/29 at 8:50am]

k. Topic 2: Connectathon Update (cont.) / DCOM / Prep for discussion with PC attendees
    i. Need to engage top level of ASTRO/IHE-RO Oversight to approach vendor management to re-emphasize importance of IHE-RO participation.
    ii. Need to get vendor acknowledgement that they need to show up for the Connectathon. Clearer expectation of participation in IHE-RO membership agreement? Publish Connectathon participants?
    iii. Build IHE-RO Brand as *the* platform for interoperability in radiation oncology
    iv. Other discussion points
        1. Corporate benefit of participation. Cost of *not* participating?
        2. Align Connectathon site as sponsored, held at clinical site?
        3. Re-consider fee model for IHE-RO? A-la-carte vs. all-you-can-test?
        4. What happens with test tools development if funding changes?
        5. Who pays for independent resources? (Judges, etc.)
        6. Still need a Connectathon…
        7. Pro-active process to decide which profiles will be tested?
    v. Priorities:
        1. High-level management-to-management communication that participation in the IHE-RO Connectathon is not optional.
        2. Make IHE-RO participation more visible and valuable to the vendor community.
        3. Build primary ASTRO branding for IHE-RO. ("Connectathon Participant" Badge in booth). Improve publicity for IHE-RO.

l. Topic 9: BRTO-II / Segmentation Profile – Sven reviewed a draft of the BRTO-II Profile
    i. Changes in BRTO-II with respect to BRTO:
        1. CP1395 (Extent RT Structure Set ROI Color)
        2. CP 1314 (Add Category Code Sequence to RT Structure Set)
        3. CP1398 (Add FOR Module to RT Structure Set)
        4. Optional support for hi-res ROI contours in RT Structure Set
        5. Require equidistantly-spaced dose grid points
        6. Define tolerance of 0.01 mm
        7. Eliminate Geometric Planner Actor
        8. Require Software Version to General Equiment Model
        9. Require only Instance Creation Date (R+), Instance Creation Time (R+), and Specific Character Set (O+*, see section …) in SOP Common
    ii. ACTION 150901: Sven to complete incorporation of changes and update draft for review at Oct 2015 TC meeting.
m. Topic 7: Consistent Dose for External Beam (CDEB) Review – Chris reviewed a draft of the CDEB Profile
    i. The CDEB Profile draft specifies requirements for the content of RT Plan and RT Beams Treatment Record IODs transferred among the following Actors:
        1. CDEB Plan Producer
        2. TDD (CDEB Plan Consumer, CDEB Beams Record Producer)
        3. CDEB Dose Tracker (Plan Consumer, Beams Record Consumer)
    ii. Requirements for RT Plan content have already been included in the TDPC Profile.
    iii. The content requirements on RT Plan and RT Beams Treatment Record can be incorporated directly into the TDW-II Profile.
    iv. ACTION 150902: Chris to revise the profile, removing references to Actors and preparing the Supplement to insert content requirements into the Technical Framework.

n. Topic 8: Review and approval of minutes from last meetings.

i. **Minutes from the July 29, 2015 TC teleconference were approved without objection.**
ii. **Minutes from the August 26, 2015 TC teleconference were approved without objection.**

o. Topic 11: BrachyTherapy and ION IHE-RO efforts – Uli reviewed a draft of the "Brachytherapy Workflow (BWF)" Profile document (v.1.2) and "Treatment Planning – Ion Plan Content" (TPPC-ION) Profile (v 1.1).
   i. There is some variation in the process flow in Brachytherapy treatment planning and delivery.
   ii. Emphasis is on the content of the RT Brachy Application Setup Module for HDR, PDR, LDR with applicator, and LDR without applicator.
   iii. The primary author for the Brachy profile is Milena Donato
   iv. A primary author is needed for the Ion Profile.

[Lunch break 9/29, 12:30-1:30pm]

p. Topic 13.5: Discuss next steps: RO-HIS
   i. Proposal to outline use case(s) for a profile. What is the scope?
   ii. Variations is process flow: scheduling in HIS vs. scheduling in TMS
   iii. A Clinical Impact Statement already exists for Consistent Patient ID in Rad Onc (CPRO)
   iv. ACTION 150903: Scott to draft Clinical Impact Statements for the following Use Cases: (1) Scheduling Consistency, (2) Billing, and (3) Treatment Summary
   v. ACTION 150904: Rickard to draft a white paper to survey existing profiles and data standards for cross-over with RO-HIS Use Case from the IHE-RO PC.

q. Topic 14.5: 3:00 - Call with Dr. Koontz, Adam Earwicker re: PC Use Cases

r. Topic 14.7: Review TC presentation for ASTRO meeting

[Adjourn for the day 9/29 at 5:10 pm]
[Resume on 9/29 at 8:50am]

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s. Topic 14.8: Connectathon next year?
   i. Possible changes
      1. Single Connectathon per year – in the Fall
      2. Concurrent "Connectivity Workshop" for other vendors?
      3. Short post-Connectathon meeting on Saturday (8am-Noon)
      4. Use second Connectathon slot for Profile Development
   ii. Consensus
      1. Plan for one Connectathon for 2016
      2. Short (1/2 day) TC meeting after Connectathon
      3. Timing: Fall 2016, after ASTRO - Week of Oct 17th or Oct 24th
      4. Location: US
         a. Philips, Madison, WI
         b. Sun Nuclear, Melbourne, FL

t. Other TC Meetings in 2016
   i. Jan/Feb Face-to-Face – Jan 25-29, 2016, Location TBD, (Melbourne, FL?)
   ii. April/May Face-to-Face – May 9-13, 2016, Europe? (need host)
   iii. After ASTRO – Wed, Sep 28 - Sat (AM), Oct 1, 2016, Boston, MA

u. Topic 12: TDW-II Update
   i. Uli reviewed the TDW-II Supplement document.
   ii. This document uses the DICOM Content section (Vol III, Chap. 7) of the Technical Framework. Uli is maintaining this material – any suggested changes should be sent to him.

iii. Consistent Dose for External Beam (CDEB) constraints for RT Beams Treatment Record are now incorporated into the TDW-II Profile. Single target tracking is mandatory. Multiple-target dose tracking is an Option for the TDD Actor.
iv. DECISION: It is expected that dose for a partial (interrupted) treatment delivery is reported as a fraction of the total dose proportional to the Meterset delivered.
v. Add RT Ion Plan Storage SOP Class support for OST on C-MOVE Request.
vi. Content requirements for RT Plan: add "All Plan IODs shall conform to 7.3.2.2.3 RT Plan IOD for Consistent Dose Tracking."
vii. Display requirements of 7.3.2.1.2 RT Plan IOD for Photon External Beam in Delivery State are not applicable in this transaction.
viii. Add content requirements for Beams Delivery Instruction.
ix. Add RT Ion Beams Treatment Record Storage as a SOP class.
x. Display requirements of dose from RT (Ion) Beams Treatment Record "present accumulated dose values to the user allowing to observe progress of treatments."
xi. DECISION: the TDW-II Profile with changes from 9/30/2015 (version 12) was voted to Public Comment without objection.
xii. ACTION 150905: Uli to send version 12 of TDW-II Profile to Chris to be published for Public Comment.

v. Review of Minutes and Action Items.
w. Preliminary Agenda for ASTRO Meeting

III. Future Meetings

a. IHE-RO Meetings
i. IHE-RO Meeting at ASTRO – Oct 21-24, 2015 in San Antonio, TX
ii. IHE-RO TC Meeting – Jan 25-29, 2016 (tentative), Location TBD (Melbourne?)

b. Other meetings through 2015
i. RSNA Nov 29-Dec 4, 2015, Chicago, IL
ii. ICCR June 27-30, 2016, London
iii. AAPM Jul 31-Aug 4, 2016, Washington
iv. ASTRO Sep 25-28, 2016
v. DICOM WG-7 Nov 2-6, 2015 in Washington, DC
vi. DICOM WG-7 May / June 2016
vii. DICOM WG-7 Aug 4-6, 2016 (after AAPM) in Washington, DC
viii. DICOM WG-7 Oct 31-Nov 4, 2016
ix. DICOM WG-6 Nov 9-13, 2015, Washington, DC
x. DICOM WG-6 Jan 18-22, 2016, Washington, DC
xi. DICOM WG-6 Mar 7-11, 2016, Washington, DC
xii. DICOM WG-6 June 10, 2016, Europe
xiii. DICOM WG-6 Sep 12-16, 2016, Washington, DC
xiv. DICOM WG-6 Nov 7-11, 2016, Washington, DC

IV. Adjournment at 11:20am EDT 9/30/15

Appendix: Use Cases in Development – Discussion with B. Koontz and A. Earwicker

a. **Treatment Delivery Device Integration** – covered by TDPC, TDIC, treatment delivery workflow profiles.
    i. What additional common workflows in the RT clinic are not covered by the existing Profiles? E.g., patient QA.
    ii. Treatment Record consistent content is not yet addressed (Dose Tracking is to be addressed in CDEB Profile)
    iii. Patient QA?
b. **Radiation Oncology Workflow Exchange with HIS (ROWE)** – Scope? CPRO is a start, but addresses only patient identification. See IHE-ITI Patient Information Reconciliation (PIR) Profile. A working relationship with HIS manufacturer(s) and HL7 expertise is needed.
    i. More detailed information regarding the scope of this Use Case is needed.
    ii. Survey of existing standards and profiles
    iii. CIS for RO-HIS Use Cases
    iv. Participation with IHE-HL7 workgroup? IHE-ITI workgroup?
    v. Neil Martin (BWH) may be a resource
c. **User Case Anonymization** – See IHE-ITI Anonymization Handbook. The IHE-RAD TF1 Teaching File and Clinical Trials Export (TCE) Profile may be good a starting point.
    i. To what extent is this an interoperability problem?
    ii. What is the deliverable? RO-TCE Profile? RO-specific anonymization handbook?
    iii. Are there Rad Onc specific considerations?
    iv. What are the legal and regulatory requirements? HIPAA? IRB?
d. **Brachytherapy** – DICOM standard (1st gen) is in place – a Brachytherapy Profile is in development in DICOM Brachy Sub-group
    i. A workflow profile is needed for brachytherapy treatment delivery.
e. **Authentication / Authorization** – See IHE-ITI Enterprise User Authentication (EUA) and Cross-Enterprise User Assertion (XUA) Profiles as a starting point.
    i. Is any additional profile development required?
    ii. Any Rad Onc specific issues?
    iii. Role of IHE-RO in making vendors aware of profiles in other domains? What drives implementation? User awareness/demand?
f. **Survivorship Care Plan** – communicate ASTRO Survivorship Care Plan Template to TMS. Gather, store, communicate patient care information from TMS and EHR for follow-up care of RT.
    i. What is the workflow to gather these data?
    ii. Where are the data stored?
    iii. How are they to be communicated?
    iv. Where are they to be reviewed?
g. **Off-line Review 3rd Party Imaging** – Image content is addressed by TPIC, TDIC. Workflow is addressed by IPDW, DPDW.
    i. Existing imaging applications do not completely and consistently implement DICOM.
    ii. Content Profiles are in Public Comment
h. **Decubitus Patient Positioning in RT Workflow** – Could be handled as an Option in BRTO-II (require consistent handling of patient geometry and labeling).