

**IHE-RO Planning Committee Meeting
ASTRO Headquarters, Fairfax, VA
Saturday, February 25, 2012**

Attendees:

Ramesh Rengan, Co-chair, UPenn	Colin Field, Co-Chair, Cross Cancer Center
Charles Able, Wake Forest	Adam Earwicker, Co-chair, Varian
Bruce Curran, TC co-chair, Brown U	Chris Pauer, TC Co-Chair, Accuray
Rick Lovett, RadOnc, VT	Prabhakar Tripuraneni, RadOnc, Co-Chair, ASTRO TF
Akkamma Ravi, RadOnc	Dick Fraass,
Bridget Koontz, RadOnc, Duke	Stephanie Terazakis, RadOnc, JHopkins
Kevin Albuquerque, RadOnc	Matt Katz, RadOnc, MA
Mark Guerts, Accuray	Barbara Muth, Research Dir, ASTRO
Laskshmi Santanam, Phys, WashU	Dave Nikolai, Elekta
Jatindar Palta, Co-chair, ASTRO TF	Rishabh Kapoor, IHE-RO TManager, UFI
Sidrah Abdul, IHE-RO Support, ASTRO	

I. Introduction/Opening

- The meeting opened with a video clip: “How great leaders inspire action,” *Simon Sinek*
http://www.ted.com/talks/lang/en/simon_sinek_how_great_leaders_inspire_action.html
 - What
 - How
 - **Why: focus of PC meeting**
- Introductions by all
- Overview of IHE/IHE-RO by Dr. Rengan

II. Planning Committee Activities (Field)

- Use Cases
- Wiki (internal communication for TC and PC)
- Self Assessment Module (SAM) for RO’s in progress
- Web Tool (demonstration to follow)
- Connectathon Judges

III. Technical Committee Shortlist (Curran, Pauer)

The current list of profiles in progress were discussed:

TC notes provided by Bruce Curran, Chris Pauer

Old Profiles:

- BRTO (Basic Radiation Therapy Objects) – Approved, in the Technical Frameworks, current version 1.7
- MMRO (Multimodality Image Registration for Radiation Oncology) – Supplement final text approved by TC February 10, 2012, will be sent out for ballot shortly. Sent to IHE, so it should appear on the www.ihe.net site shortly.
- MMRO-II (MMRO updated in 2012) – Supplement approved by TC for public comment February 10, 2012. It should appear on the www.ihe.net website shortly as well as announced for public comment.

- ARTI (Advanced Radiation Therapy Objects) – Profile is in Trial Implementation, but supplement is undergoing heavy revision. Intention is to get the changes/updates out shortly.
- TDW (Treatment Delivery Workflow) – Supplement approved to Final Text, waiting for some template editing and to finish up the above before inserting into the TF.
- IPDW (Integrated Positioning and Delivery Workflow) – Supplement undergoing some final editing, expected to go to public comment in about 3 weeks.
- DCOM (Dose Compositing) – Profile in Trial Implementation. Minor editorial changes approved this week to update to new IHE standards and MMRO changes. Waiting sufficient vendor implementation for testing and completion.
- ESI-J (Enterprise Scheduling-Japan) – Profile in Trial implementation, but no recent (2 years) work by the Japanese to test it.

New Profiles in Development:

- DPDW (Discrete Positioning and Delivery Workflow) – Supplement has been idle for a year while we finished IPDW, expecting to re-activate the working group in May 2012.
- TDW-II (Treatment Delivery Workflow II) – Supplement to update TDW to include changes in DICOM inserted by DICOM supplements 74 and 96. Probably ready for public comment around the end of Summer 2012.
- QAPV (Quality Assurance with Plan Veto) – Profile in draft development to implement a standard workflow for QA checks. Primary goal is a ‘last minute’ pre-treatment check to verify that the MU calculated still match the planned dose when the plan reaches the treatment machine. Expected to go to Public Comment in late Spring 2012.

Questions: How to get QA companies to have interest? No push from their consumers. Intimidated by TC work? Not interested in DICOM or HL7. Rather would have tutorial? Did live tutorial but little participation. Possibly try web-based tutorial?

IV. IHE-RO Leadership Vision (Field)

- Review of IHE-RO Leadership Vision document prepared by Colin and Sidrah for IHE’s Strategic Planning.
 - Goals of PC listed in document:
 - Patient Safety
 - Outreach to RO Community
 - Closing the loop
 - Vision document from each IHE domain will be presented at the IHE Board for further discussion.
- Need to ensure that IHE-RO is sustainable. Need to define vision. Define the WHY (reference to video clip).
- More thought and input was needed on document. Moving forward, document should be created by the PC chairs, and updated annually?
- The Planning Committee was polled on 2 questions through email:
 - Q1: What role would you like to see yourself in IHE-RO?
 - Publications
 - Outreach to RO Community
 - Prioritization of use-cases

- Job-jar
- Marketing efforts
- Increasing communication between TC and PC
- Establishing Connection to clinic
- Connectathon
- Other/Anything
- Observer/Advisor
- Q2: Where would you like to see IHE-RO headed?
 - Liaison between clinicians and manufacturers
 - Doing clinical/translational research
 - Being the leading expertise group
 - Defining specific tasks
 - Better communication/marketing of end results
 - Focus on patient archive

Comments:

- Need work product for all – ensures sustainability?
- Making IHE-RO a key note address at the ASTRO Annual Meeting? Use ASTRO Annual Meeting to get the word out.

V. IHE-RO Helper (Palta, Kapoor)

- Strategic meeting yielded web tool that would allow for end user to see what is out there and available in the market.
- Web tool developed by Rishabh Kapoor, Daniel Yeung (UF, Anh Le (UF).

Discussions/Suggestions on IHE-RO Helper:

- Members of PC should review text of IHE-RO helper.
- Make the ‘implied’ arrows apparent? Contourer to contourer arrow should be showed.
- Maybe should define the profile when matrix is shown?
- Anything that passed is shown. But should not let people know that they are grey because they ‘failed.’
- If vendor doesn’t release integration statement within year, assumed that product is not released into market.
- Explanations in textual form what you can anticipate from clinic.
- Add hyperlinks to boxes, what it means- verbalizing results in plain text
- Ability to click on summaries.
- Time and effort required for up keep of IHE-RO Helper database? Maintenance requires little effort.
- Grey means status has not been tested or whether in not that is ‘feature in product.’ IHE RO connectivity has not been validated. (could have been tested but not validated)
- Change the word ‘feature.....’ to CONNECTIVITY?:
 - Present
 - Evaluated
 - Or status N/A
- Develop small sub-group to help with IHE-RO helper.
- Ability to print those results?
- Short term link to PC for ideas/feedback from committee.

- Communication should come from one person.

ACTION: Abdul will circulate at test link for the IHE-RO helper. Committee will get the chance to offer comments/suggestions.

Questions:

1. What is value of IHE-RO for ASTRO?
 - Increases accessibility of information on a grand scale to regular ASTRO member.
 - Show that IHE-RO has made significant impact on the market.
 - Become self-sustaining.
 - ASTRO should not be held liable for results.
2. How to motivate vendors regarding IHE-RO?
 - Press releases on vendor products that release statements that say they've shown connectivity.

VI. IHE-RO Sustainability Presentation (Muth)

- ASTRO has invested over one million on the IHE-RO initiative over the past seven years, with little return on investment.
- There has been significant support from the University of Florida grant awarded to Jatinder Palta, Colin Field and May Wahab.

Achievements:

- Developed 4 profiles
- Held 5 successful Connectathons
- Produced several publications, in ASTRO's Red Journal and PRO
- Goal is to make IHE-RO cost-neutral, because at the current moment it is not.
- The proposed tiered pricing structure for IHE-RO Support was presented (applicable to industry representatives):
 - Tier 1- \$15,000
 - Up to 8 beam specific actors OR 1 general actor
 - Free pre-testing of all
 - Tier 2- \$35,000
 - Up to 3 general actors
 - Replace any or all general actors for up to 8 beam specific actors each
 - Tier 3- \$55 ,000
 - Up to 5 general actors
 - Replace any or all general actors for up to 8 beam specific actors each
 - All retests are half price
- Muth proposed conducting a survey amongst the IHE-RO PC and TC to look at prioritization of activities.
- IHE member organizations are largely industry representatives. Need to encourage institutions to join IHE as well to be a part of decision making.

Comments:

- Not a lot of protocol involvement. Barriers: ability to get academic credit for effort. How will it help volunteer academic careers?
- Maintenance of certification – value for quality of improvement.
- Little incentive for physicists.

- Curran reported that the IHE Board has a vendor sponsorship, could look into having this structure at the domain level to help with sustaining IHE-RO.
- Pauer suggested incorporating IHE-RO successes with the IHE-RO helper.

VII. RT Stakeholder’s Group (Fraass)

VIII. Discussion: Maximizing IHE-RO PC Productivity and Volunteer Efforts

- Specify vision
- Identify, prioritize and perform tasks (job jar)
- Empower ‘accountable’ volunteers
 - Re-structure committee calls by job jars (or specific tasks).

Job jar:

Task	Description
PCc T-cons and meeting	Organize calls
Use case selection	Organize use case solicitation, definition, selection, prioritization, interface with TC
Publication and promotions	Organize all communications with RO community
SAM	Prepare content for SAM
IHE Communications	Participate in IHE co-chair T-Cons
IHE-RO helper	Web-based tool to publicize IHE-RO solutions
Wiki	Keep it up to date
IHE vision document	Prepare and update annually
IHE webinar	Prepare and give IHE webinars
Connectathon judging	Attend the Connectathon and serve as an independent judge

Comments:

- IHE Vision document should be at the top of the list. Needs more thought.
- Any other jobs?
 - Connectathon results
 - IHE-RO helper is also publicize /data repository
 - IHE-RO structure
 - Each profile in development
 - Business model
 - Connectathons
 - ESTRO Connectathon
 - Communications-interactions with technical groups TC, RT Stakeholders, NEMA, other IHE-RO groups (Netherlands).
 - Closing the loop- ensure vendors release products into the RO market with in certain time period from when products passed at a Connectathon
 - Job jar –organize and maintain the job jar
 - Put job jar on wiki
 - Solicit other jobs

- Solicit volunteers to work on jobs
- ASTRO arrange TCON on a job basis
- Add report for each job at general PC meetings.
- Sidrah will send out list of tasks to prioritize.
- Sidrah will arrange T-cons for high priority tasks.
- Current status (year associated)
- Recruitment and expansion of IHE-RO
- Community liaison – RO Community
- Patient Archive- expressed by PC responses
- NROR
- Hearing back/evaluation of test facility. – does it work the way we want it to work?
- Fundraising

IX. Discussion: Rationalizing selection and prioritization of use cases (Earwicker, Nikolai)

- What sustains IHE-RO is “I have a problem.”
- Earwicker demonstrated that IHE-RO process can take 30-60 months for development of a profile.
- Issues are:
 - Use case selection criteria not defined
 - Prioritization of backlogged use cases vs. new use cases
- Solutions:
 - Define objective selection process
 - Absolute use case scoring
 - Keep the best and cut the rest
- Balanced score card was presented with multiple categories.

Comments:

- Old cases presented as new cases? The need might not go away for previously rated use cases.
- Subgroup should be formed for the weighting of use cases.
- Technical feasibility should be added to score card.
- IHE Board could be another topic in score card.

X. Discussion: Outreach to the RO community (Rengan)

- What does ‘IHE-RO Compliant’ mean?
 - Broad vision of being cross-compatible with all vendors.
- More accurate to say “IHE-RO Compliant _____ (Planner?)”
 - Group agreed that this was better wordage.
- Closing the loop:
 1. Expand workforce
 - a. PC membership
 2. Get the word out
 - a. Promotional Subcommittee
 - b. Target Safely
 3. Improve accessibility to results
 - a. IHE-RO Helper
 4. Incentivize adoption of IHE-RO

- a. RFP
- b. Identify new stakeholders
 - i. Internist/pulmonologist
- It was suggested to have talks at other discipline meetings- GU meeting
 - IHE-RO Helper to be presented at ASTRO IGRT meeting in April 2012.

ACTION: Journal articles on IHE-RO solutions (dose compositing), editorial to ASTRO Red Journal? (Rengan, Terezakis, Katz)

XI. Discussion: Vendor retesting regarding Connectathon (Earwicker)

- Currently, under the IHE-RO process, vendors don't have to retest their products before they release.
 - However, vendors are re-testing voluntarily.
- Should retesting be required annually before release?
 - Encourages full participation in Connectathon (of all vendors).
- ASTRO can work with vendors to put out press releases of products that have passed retesting.
 - Disclosure is needed to say that ASTRO does not endorse any of the products.
- Guidance document should come from Planning Committee, Curran volunteered to help.

XII. Discussion: IHE-RO Test Facility (Palta)

- Why is a test facility needed?
 - An independent test lab can facilitate testing of preliminary versions of software.
 - A multi-vendor and unobtrusive testing environment can speed up the development cycle.
 - Year round testing capability
 - Some vendors require technical support in the implementation of standards.
 - Technical staff at the lab can provide those resources.
 - Clinical users need help in understanding and resolving interconnectivity and interoperability issues.
 - Technical staff at the lab can provide those resources.
- Test lab attributes:
 - Infrastructure
 - Personnel requirements
 - Test data requirements
- Cannot take place of Connectathon because the results of the tests done in the lab would not be included in the IHE-RO helper.
- Test lab would function under IHE-RO standards.
- Pre-domain testing would still remain for new test software, value may decrease.
- Palta excused himself from the remainder of the test lab discussions due to conflict of interest.
- Who's the business entity?
- The group discussed that IHE-RO should suggest that this is valuable. Approach some entities through some methods to encourage its formation. Willing to work with that entity to ensure success.

ACTION: Task in job jar to work on model for test lab? IHE-RO can provide letter of support.

XIII. Discussion: Last topic identified by participants: Why hasn't the IHE-RO process been successful with end users/Why should people care about IHE-RO?

- Because the vendors haven't solved the problem.
- Clinical physicists are continually developing work-arounds.
 - Often work-arounds are riskier- direct impact to patient care.
- Protect patients and our time.
- Be advocates for individual practices, physicians who need to see that change in product.
- Think bigger than RO, and look at medicine as a whole.
- Get away from workarounds- huge time constraint.
- Good working collaboration with vendors, access to people.
- If secure process, innovation could occur more readily.
- Eliminate competition on interoperability, focus time on competing on products.
- Altruistic: best evidence-based sage radiation oncology patient care possible.
- Taking what is easy and making simple.
- Patient's right to best and most safe effective treatment.
- To stop worrying about connectivity issues, focus will be more on safe, sound treatment for patient.
- Safest treatment for any human.
- Human right to safest treatment.

Barriers to IHE-RO:

- Everyone- low priority. We didn't ask for it.
- Too successful at workarounds.
- Physicists don't feel empowered to demand.
- Prioritization.
- Lack of awareness.
- Lack of attention to improving efficiency in computer systems.
- Complexity, poorly defined workflow.
- No demand . business culture focused on other things.
- Rapidly changing technology.
- Clinicians not sure what questions to ask to solve interoperability issues.
- Complexity.
- Lack of awareness of need.
- Biggest barriers: community at large does not know we exist.
- Whatever we are doing is not being known.
- Lack of efficient distribution of resources.

Following notes provided by Dr. Katz:

IHE-RO Values: Quality, Fidelity, Interoperability, Simplicity, Collaboration

IHE-RO Vision: To be the global leader in quality and safety in radiation treatment delivery systems.

IHE-RO Mission: To ensure all digital aspects of cancer care delivery are seamless, safe, and error-free.