

**IHE-RO Technical Committee
Conference Call
May 21, 2020
10:30 am – 12:00 pm EST**

**Technical Committee Chairs:
Scott Hadley, PhD, University of Michigan
Chris Pauer, Sun Nuclear**

Mission Statement: *The American Association of Physicists in Medicine American Society for Radiology Oncology (AAPM) supports 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, 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

Bruce Curran
Bruce Rakes
Chadd Smith
Chris Pauer
Jill Moton
Jim Percy
Jon Treffert
Martin von Siebenthal
Paul Wickre
Rishabh Kapoor
Sanjay Bari
Scott Hadley
Stefan Pall Boman
Stina Svensson
Thomas Schwere
Tucker Meyers
Uli Busch
Walter Bosch

Minutes

- I. Call to Order at 10:31am ET. A quorum.
- II. Review Agenda – meeting agenda was reviewed and revised
- III. Minutes Review – Minutes of the April 6-10, 2020 TC Virtual Meeting were reviewed and approved with no objections or abstentions.
 - I. Other committee updates.
 - a. PC and SC.
 - i. PC has been strongly involved in the XRTS Profile.
 - b. IHE Domain Committee

- i. Chris has sent XRTS Profile draft to IHE Domain Coordination Committee to review HL7, FHIR considerations
- II. Other IHE-RO Items
 - a. DICOM
 - i. Supp 199 (Treatment Record) is going into Final Text
 - ii. Supp 160 (Patient Setup) is in development
- III. Voximetry Healthcare – Paul Wickre provided an overview of radiopharmaceutical therapy to the group
 - a. A major challenge with this therapy has been quantifying radiation dose delivered to the patient.
 - b. One approach is to acquire a PET or SPECT image after the radiopharmaceutical is injected. A 3-D dose, can be calculated from activity (SPECT or PET) via washout model or by localizing radiation “sources” and calculating dose from them.
 - c. Use RT Dose IOD with general reference module to represent the dose map
 - d. Other metadata to be recorded in the RT Dose Instance (or SPECT, PET images)
 - i. Imaging time with respect to injection start/stop times (is this in the image header)
 - ii. Washout model?
 - iii. Imaging timepoints?
 - iv. Dose scope.
 - e. A “Plan-Free Dose Reporting” Profile sketch was discussed
 - i. Defines Generic Dose Producer and Generic Dose Consumer Actors
 - ii. Avoids the need for a “stub plan”
 - f. Care is needed to define the scope of the dose: i.e., how much of the treatment is represented by the dose? This is important, especially if there is no RT Plan to define context
- IV. DRRO (Deformable Registration in RO) – Thomas Schwere led a discussion related to Deformable registrations and deformed images, structures, and doses. Proposals for references and dates in DICOM instances were discussed briefly; further discussion is expected in the DRRO sub-group:
 - a. Creation of a deformed image (use case #5 in DRRO):
 - i. Equipment creating the deformed image
 - ii. Add equipment of the two image sets to the Contributing equipment sequence
 - iii. Acquisition DateTime vs. Content DateTime
 - b. Creation of a deformed structure set (use case #3 in DRRO):
 - i. Add reference to the original structure set
 - ii. Add reference to the deformable registration used to propagate the structure from the original structure set
 - c. Creation of a deformed dose (use case #4 in DRRO):
 - i. Add reference to the original dose
- V. XRTS (HIS) Profile – Review by PC, pending review with Domain Committee
 - a. A re-organization of Profile Actors may be warranted
 - i. Use cases priorities have been assessed using a survey of ASTRO members.
 - ii. ASTRO Clinical Practice Statement on Minimum Data Elements for RT
<https://www.astro.org/Patient-Care-and-Research/Clinical-Practice-Statements/Minimum-Data-Element>
 - iii. Some clarification of terminology may be needed, e.g., “intent” vs. “prescription”.
 - b. Planning Committee is tasked to better define the clinical user cases for the XRTS profile. The current profile seems to cater to multiple use cases and seems complicated and Rishabh proposed to break the profile into specific use case such as exchange of dose delivery information for the completion of physician’s On-treatment visit, end of treatment visit clinical notes, exchange of pacemaker, pregnancy, pathology, radiology, laboratory reports from EHR to ROIS for managing the clinical workflow in the ROIS.
 - c. HIS Committee is working on mapping from DICOM and HL7 messaging. Details to be presented at the next TC meeting.
- VI. Agenda for July 2020 TC Meeting.
 - a. Meeting times: Wednesday-Friday mornings (8:30am – 12:00pm CDT)
 - b. Priorities: DRRO, XRTS, General Dose

c. **ACTION 200501**: Chris to prep July agenda for June TC Teleconference

VII. October Meeting in Belgium

a. Uncertainty regarding travel in October remains. Decisions regarding Belgium meeting deferred for now.

VIII. Connectathon – can we be cloud-based?

a. **ACTION 200502**: Jill to arrange IHE-RO Test Committee meeting to discuss options for distributed Connectathon testing.

XI. Meeting was adjourned at 12:04pm ET.