**IHE-RO Technical Committee**
**Face-to-Face**
**April 10, 2018  2:00 – 5:30 PDT**
**April 11-12, 2018 at 8:30-5:30 PDT**
**April 13 8:30-12:00 PDT**
**JW Marriott Las Vegas Resort and Spa**
**Room 3200**
**225 N. Rampart Blvd, Las Vegas, NV**

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

**IHERO Task Force Co-Chairs**
**Bruce Curran, MS, ME, FAAPM, FACMP, FACR,  AAPM / VCU Health**
**Bridget Koontz, MD, Medical Director, RO Services, Duke Regional**

**Mission Statement:**  *The American Association of Physicists in Medicine (AAPM) sponsors a multi-society Task Force to undertake an initiative to promote the Integration of the Healthcare Enterprise (IHE) – Radiation Oncology (RO.  Originally formed by the American Society for Radiation Oncology (ASTRO), it fosters seamless connectivity and integration of radiotherapy equipment and the patient health information systems.   The Technical Committee of IHE-RO will undertake use cases defined by 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 | 4/10 | 4/11 | 4/12 | 4/13 |
|---|---|---|---|---|---|---|
| Chris Pauer | Sun Nuclear | chrispauer@sunnuclear.com | X | X | X | X |
| Scott Hadley | U. Mich. | swhadley@umich.edu | X | X | X | X |
| Walter Bosch | Wash. Univ. | wbosch@wustl.edu | X | X | X | X |
| Jill Moton | AAPM | Jill@aapm.org | X | X | X | X |
| Koua Yang | Philips | Koua.yang@philips.com | X | X | X | X |
| Elias Lundeqvist | Raysearch Labs | Elias.lundeqvist@raysearchlabs.com | X | X | X | X |
| Stefan Pall Boman | Raysearch Labs | Stefan.p.boman@raysearchlabs.com | X | X | X | X |
| Sven Siekmann | Brainlab | Sven.Siekmann@brainlab.com | X | X | X | X |
| Sanjay Bari | Elekta | Sanjay.bari@elekta.com | X | X | X | X |
| Bruce Curran | AAPM / VCU | bhcurran@gmail.com | | X | X | |
| Thomas Schwere | Varian | Thomas.Schwere@varian.com | T | T | T | T |
| Bob Pekarek | Accuray | bpekarek@accuray.com | | T | T | |
| Ulrich Busch | Varian | Ulrich.busch@varian.com | | T | | |
| Harold Beunk | ICT | | | | T | |

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| Jim Percy | Elekta | Jim.percy@elekta.com | | | | |
|---|---|---|---|---|---|---|
| Rishabh Kapoor | VCU/VHA | Rishabh.kapoor@va.gov | | | T | |
| Tucker Meyers | Epic | tucker@epic.com | | | T | 35 |
| Neelu Soni | Mercy Hospital, Springfield | SoniNeeu@yahoo.com | | | T | |
| Mark Philips | Univ. Washington | MarkP@uw.edu | | | T | |

X = In person,  T = Via teleconference

**Minutes:**

I. Call to Order at 2:10 pm PDT
    a. Seven members were present.  A quorum was declared.
    b. Review Agenda
        i. Note reserved times for DICOM WG-7 (4/11 8:00-8:30am PT), ICT Test Tools (4/12 8:30-9:30am PT), and HIS discussion (4/12 9:30am).
        ii. Agenda topics:  (a) Profiles (RXRO, QAW, HIS, TDRC, QRRO); (b) Test Tools; (c) connectathon preparation; (d) Brachy and Ion profiles
        iii. Other broad topics to add
            1. 2$^{nd}$ Gen Profiles (segmentation, radiations);
            2. Equivalence of RT Plans (with/without Prescriptions, Dose Ref)
            3. Change Proposals
    c. Minutes from IHE-RO TC meetings were reviewed
        i. IHE-RO TC Jan 22, 2018 Teleconference minutes were approved without objection.
        ii. IHE-RO TC Feb 5-9, 2018 Meeting minutes were approved without objection.
        iii. IHE-RO TC Mar 19, 2018 Teleconference minutes were approved without objection.

II. Topic 1: Goals for Week
    a. Technical Framework
        i. ACTION 180401 Chris to formalize rules for Profile development and testing.
            1. Add to TF after Connectathon testing
            2. Formal Connectathon testing after informal testing
            3. CPs for Profiles in TF, revisions before that.
        ii. Change Proposals
    b. Advance Profiles:
        i. Prescription in RO (RXRO)
        ii. Quality Assurance Workflow (QAW)
        iii. HIS
        iv. Treatment Delivery – Record Content (TDRC)?
        v. Query / Retrieve in RO (QRRO)?
    c. Test Tools
        i. Educate / Demo
        ii. Feedback from users
        iii. Requirements for Connectathon
    d. Connectathon prep schedule

III. Topic 2: Profile Statuses – The status of existing Profiles was reviewed with respect to their incorporation in the Technical Framework.
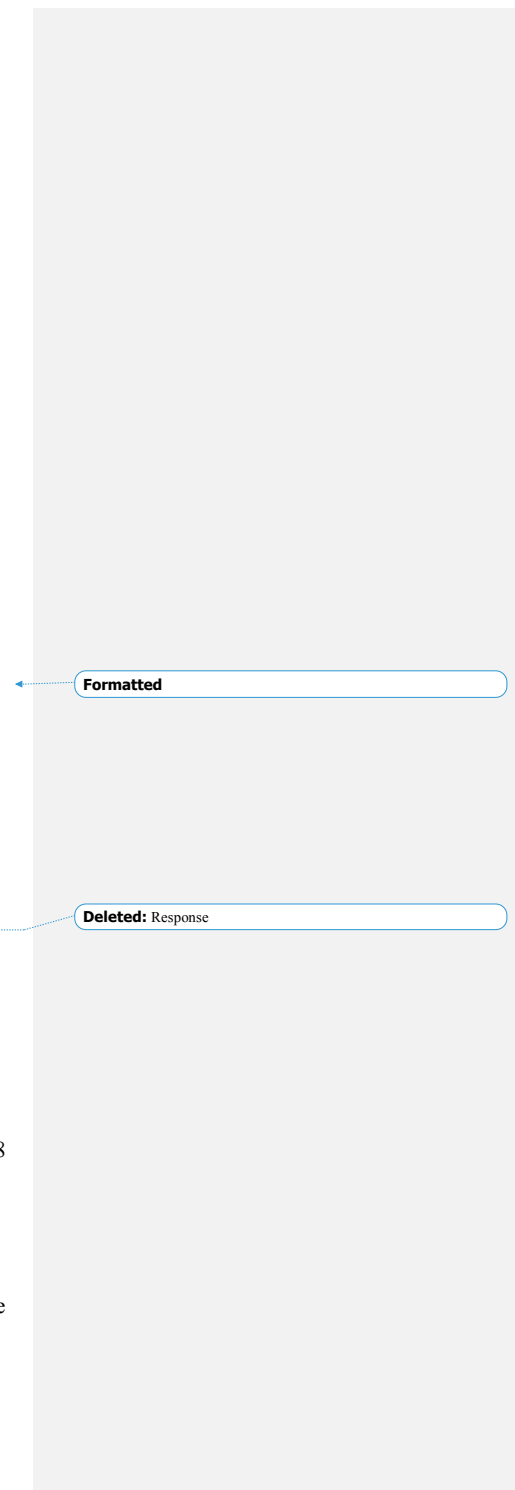    a. Three Profiles are expected to be published in the TF following successful testing in the 2018 Connectathon: BRTO-II, MMRO-III, TPPC.
    b. TDPC, TDW-II are in Trial Implementation.  However, there are no current plan to test at a Connectathon.

IV. Topic 2.5: Equivalence of RT Plans (with/without Prescriptions, Dose Ref)
    a. The TC discussed scenarios in which changes (deletion of "unneeded" information) are made to DICOM instances with or without changes to Instance UIDs.
    b. Workflow Profiles, e.g., TDW-II and QAPV, address the issue of UID "uniqueness" in the context of possible changes in plan content.

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c. This issue can arise from interaction between a TMS and patient positioning systems when
90   there is in consistency between instance UIDs and plan content. Two situations are possible:
   i. Multiple copies of a plan with different UIDs – no safety issue
   ii. Different "dosimetrically identical" with differing content and the same UID –
       potential inconsistencies.
d. What constitutes an "identical" plan?
95   e. It was concluded that more details regarding the specific Use Case are needed to address this
       issue.
f. It was noted that DICOM Type 3 attributes may be discarded by Level 1 (base) Storage SCPs
   (see DICOM PS3.4, section B.4.1) without changing Instance UIDs.

100  V. Topic 3: Level Set
   a. Updates on IHE-RO activities
      i. Planning
         1. PC is creating a survey to be sent to AAPM members.
      ii. Oversight, Steering Committees
105        1. Presentation accepted for ASTRO 2018 Annual Meeting. Bridget Koontz,
            Scott Hadley, Eric Ford, and David Hoopes to review Patient Safety issues in
            the context of RO-ILS (Incident Learning System) and IHE-RO Profiles.
      iii. Domain Coordination Committee
         1. Bruce and Scott have presented to DCC.
110  b. AAPM
      i. IHE-RO TC meeting is scheduled in 101-D Music City Center on Tuesday. 11 people
         have signed up to attend. The intent is to encourage attendance by clinical physicists
         and vendors. The TC meets in the Omni Hotel for the remaining meeting days.
   c. DICOM WG-7 Update [4/11/18 8:00-9:00am PT]
115     i. DICOM 2$^{nd}$ Gen Profiles were discussed briefly. There has been an effort to minimize
         optional attributes in the new IODs. Creating IHE-RO content Profiles based on
         Supplements 175 and 176 should not involve large effort.
   d. AdvaMed and Standards Efforts – no update this meeting
      i. RT2- Radiation Therapy Readiness check
120     ii. RT3-Machine Configuration Standard
      iii. RT4-(potential) Standard for Machine, Patient QA
   VI. Topic 4: Prescription Profile (RXRO)
      a. Sven updated the TC on the status of the RXRO Profile.
      b. The TC revised introductory text in the Profile draft (Version 0.10)
125

[Adjourned for the day 4/10/18 at 5:20pm PDT]
[Resume meeting 4/11/18 at 9:10am PDT, following DICOM WG-07 teleconference]

   VII. Topic 4: Prescription Profile (RXRO) continued
130  a. The TC considered adding Profile Options. The Profile draft currently supports three Use
      Cases. Some concern was expressed that adding options would make testing difficult. The
      Profile could be extended later to support additional Use Cases.
   b. Further work on revision of introductory text. Glossary definitions for terms *Treatment
      Intent, Treatment Prescription,* and *Treatment Directive* were provided to avoid confusion.
135  Sven will continue revision of the text (Version 0.10 CP),
   c. ACTION 180406: Chris to add RXRO to next Teleconference agenda.

   VIII. Topic 5: Review of MMRO-III needed?

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140        a.  Version 1.8 was reviewed and revised in the March 19, 2018 TC Tcon.  Changes were saved as version 1.9.   This version is to be tested at the 2018 Connectathon.

IX.   Topic 5.5:  Change Proposals
    a.  CP-RO-TDW-II-001 (a) changes reference 7.3.6 to 7.3.9 and (b) changes "may" to "shall" –
145        This CP is to be incorporated in Revision 13. Thomas will upload when complete.  Reference to CP has been removed from wiki table.
    b.  **DECISION:** As a general rule, CPs are applied to Profiles that have been incorporated in the TF.  Changes to Profiles in development will be treated as new revisions.

150  X.   Topic 6: 2nd Gen Profiles
    a.  The TC discussed development of IHE-RO Profiles involving DICOM 2nd Generation RT objects and workflows.  Several issues were considered:
       i.  Is there a role for IHE-RO in conversion of 1st Gen data to 2nd Gen RT objects?
       ii.  Can existing IHE-RO Profiles be re-implemented using 2nd Gen objects?
155     b.  Development priorities for 2nd Gen IHE-RO Profiles were discussed.
       i.  It was suggested to follow the prescription / treatment planning / treatment delivery workflow sequence.
       ii.  Prescription (RXRO) is the first step.  Limited implementation with 1st Gen treatment
planning.
160       iii.  Segmentation Annotation Profile provides linkage to segmented volumes.  Initial implementations can use RT Structure Sets.  Also include other Segmentation IODs.  (A 1st-to-2nd Gen conversion white paper has some useful information, but is somewhat dated and needs updating with respect to Sup 147.)
       iv.  Radiation / Radiation Sets are the third stage.
165     c.  The development priority is RXRO.  Work can start on Segmentation Annotation, but this is a low priority.

XI.   Topic 7: QA Workflow Review
    a.  The Quality Assurance Workflow (QAW) Profile has been renamed the Basic Quality
170       Assurance Workflow (BQAW) Profile.  This version does *not* make use of Unified Procedure Step.
    b.  The BQAW Profile defines Actors:
       i.  Planning Data Provider – provides CT, Structure Set, Dosimetric Plan, Dose
       ii.  Delivery Data Supplier – provides Beams Treatment Record, Dosimetric Plan, and
175       *optionally* Dose, Spatial Registration and machine log file (non-DICOM?), CT, RT Image
       iii.  Planning Analysis Performer – receives and analyzes data from Planning Data Provider and generates a report
       iv.  Delivery Analysis Performer – receives and analyzes data from Delivery Data
180       Provider and generates a report
    c.  For transport of data objects, consider using DICOM Raw IOD to encapsulate non-DICOM data and Key Object Selection IOD to provide a manifest of data objects for analysis.
    d.  Need to identify the trigger event(s).
XII.  Topic 10:  Connectathon
185     a.  Schedule for next Connectathon
    b.  Milestones and deliverables
       i.  When are test results due?
       ii.  Dates for questionnaire
       iii.  Lodging / facilities
190       iv.  Write procedure for pre-test using content validator

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v. Distribute test datasets
vi. Judges

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XIII. Topic 11: RO History profile (ROTH)
    a. Source of data
        i. Treatment Record from TMS
        ii. Images, segmentation, and planned dose from TPS (Archive)

200
    b. Scope
        i. Define basic scope including planning information and beams treatment record.
        ii. Inclusion of verification images and positioning data could be an option?
    c. Use KOS as a manifest of instances.  Multiple KOS instances may be needed to represent data subsets.

205
    d. "Old" data (treated) may need to be retrieved from archival storage.  How would export of such data be tested?
    e. ACTION 180402:  Scott to solicit input regarding scope and expectation for ROTH Profile from clinical colleagues.

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XIV. Topic 12: 4D Image Import
    a. Feedback is needed from DICOM Working Groups – no update at this time.

XV. Topic 13: TPPC
    a. No update at this meeting

215

XVI. Topic 14: Brachy Profile
    a. The TC reviewed version 1.12 of the IHE-RO_Brachytherapy_Workflow document
        i. Specific Rules are unclear for Source Strength Reference Date (300A,022C) and Source Strength Reference Time (300A,022E).

220
        ii. Presence requirement (R+) for Source Strength (300A,022B) may be inconsistent with DICOM Type 1C Condition.  This should be checked.
        iii. Channel Length (300A,0284) Type 2 (R+) – add Specific Rules "Shall be present"
        iv. Transfer Tube * attributes - add Specific Rules "Shall be present"
        v. Source Movement Type (300A,0288) for LDR seeds – change Presence to R+ "Shall have value FIXED"

225
        vi. Safe Position Exit Time (3008,0164) – "Date" should be "Time"
        vii. Safe Position Return * - "exited" should be "returned to"
        viii. (3008,0171) presence should be "RC+"
    b. Additional changes recorded by Chris Pauer

230
        i. (300A,022C) Source Strength Reference Date (and time) : Concern that date refers to date and time of treatment vs. source reference date and time (also in Treatment Record)
        ii. (300A,0229) Source Strength: concern that this violates the 1C condition…Walter suspects it may be a problem in general in DICOM

235
        iii. (300A0284) Channel Length: possibly explicitly state that a value shall be present
        iv. …same for (300A,02A2)
        v. (300A,0212) Could use D indicator (display, but same as DICOM)
        vi. (300a,0288) R+?
        vii. (3008,0116)  Shall be present?

240
        viii. (3008,0164) Cut and paste on comment (date vs. time)
        ix. (0008,1070) R+?
        x. (3008,0171) RC+?

245        c.  **ACTION 180403**: Chris to send corrections for Brachytherapy Workflow Profile to Uli Busch. [completed]

[Adjourned for the day 4/11/18 at 5:00pm PDT]
[Resume meeting 4/12/18 at 8:30am PDT]
250

XVII.   Topic 8: ICT Tools
- a. Harold Beunk demonstrated operation of the ICT Content Validator tool version 1.0 (first official release)
  - i. Creation of a test dataset from DICOM files
  - ii. Selection of a Test Scenario
  - iii. Check for consistent dataset
  - iv. DICOM Validation per 2018 definition files
  - v. DICOM Viewer displays content of dataset, organized by Module
  - vi. Export of results (html, xml) and test dataset instances
  - vii. Content validator can be run from command line
    1. Specify datasets, scenario, results in command line, or
    2. Specify datasets in XML script file
  - viii. Results (in XML) can be parsed automatically to identify errors
- b. Feedback from users
  - i. Clearer documentation for dataset specification and batch invocation is needed.
  - ii. **ACTION 180404**: Harold to provide detailed instructions and examples for batch execution.
  - iii. Batch XML file must reside in the root directory of the Tool.
- c. Expectations for Connectathon
  - i. Vendors were asked to begin using the Validation Tool as soon as possible and provide feedback to Harold Beunk at ICT and copy Walter Bosch.

XVIII.   Topic 9: HIS Profile Next Steps – Call with Tucker Meyers and Rishabh Kapoor
- a. The TC briefly reviewed HIS Profile discussion notes from IHE-RO Feb meeting, as well as comments from the IHE-RO PC and Dose Elements group (see Feb. Minutes) – Scott reported on input from PC.
  - i. Support for appointments/scheduline is important.
  - ii. "Less is more". I.e., keep information sent to HIS to minimum necessary.
  - iii. Who uses which system (HIS, ROIS) to do their work varies depends on institution and culture.
- b. HIS message content from Feb 2018 TC meeting (Intent, Prescription, and Session Results Messages) was reviewed in response to questions from Tucker Meyers.  Changes were captured by Chris Pauer.
  - i. Treatment Site, Morphology, Diagnosis codes. Support for both ICD-10 (site) and ICD-O (morphology) codes was discussed.
  - ii. Staging – free text (varies by disease site)
  - iii. Treatment Technique Label has replaced Treatment Technique Code
  - iv. Discussion of what Plan details need to be included in the Sessions Result Message.
  - v. Keep Treatment Site per Plan in the Session Results Message.
  - vi. Tie together prescriptions (predecessor, concurrent) using referenced UIDs.
  - vii. Include both Fraction Dose Planned and Fraction Dose Delivered.
  - viii. Does Completion Status indicate (a) 100% dose delivered or (b) intent to continue treatment?
  - ix. Emergency treatment of palliative cases are out of scope for this Profile.
- c. **ACTION 180405**: Tucker to draft an HL7v2 specification for OIS-to-EHR messages.

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d. An updated draft of content for Intent, Prescription, and Session Results Messages from the TC discussion is shown below (changes highlighted).

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**Intent Message Content**

| Data Item | Description | VM | DICOM Mapping | Issues |
|---|---|---|---|---|
| Intent UID | ID for Intent Instance | 1 | RT Physician Intent SOP Instance UID? | DICOM mapping? |
| Physician Narrative | Free text note | 0-1 | RT Physician Intent Narrative | |
| Concurrent therapy | Free text description of surgery, chemotherapy, immunotherapy for this patient | 0-1 | <GAP> | May be included in Physician Narrative |
| Treatment Site Sequence | | | | |
| >Treatment Site | Free text describing treatment site | 1 | Treatment Site | |
| >Site Code | Coded description of the treatment site. Shall use ICD-10 codes. | 0-N | Treatment Site Code Sequence | >1 code needed? |
| >Site Code With Morphology | Coded description of the morphology. Shall use ICD-O codes. | | | |
| >Diagnosis Code | Coded description of the condition to be treated by this Intent. Shall use ICD-10 codes. | 0-N | RT Diagnosis Code Sequence | >1 code needed? |
| Staging | Free text describing disease stage. T/N/M | 1 | <GAP> | DICOM mapping? This is not well standardized |
| Therapeutic Goals | Intent type: CURATIVE, PALLIATIVE, PROPHYLACTIC, UNSPECIFIED | 1 | RT Treatment Intent Type | |
| General Methods | Free text describing the category of treatment technique to be used. Categories include (a) Tele vs. Brachy, (b) Radiation | 0-1 | Radiotherapy Treatment Type, Teletherapy Radiation Type, | |

| | type: Photon, Electron, Ion or Brachy Source Type etc. … | | Brachytherapy Source Type | |
|---|---|---|---|---|
| Treatment Technique Label | Additional information for treatment (such as TBI, Conformal…) | 0-1 | RT Treatment Technique Label | Optional Free Text |
| Protocol | Free text identifying the clinical, clinical-trial, or registry protocols | 0-N | RT Protocol Code Sequence | |

305        **Prescription Message Content**

| Data Item | Description | VM | DICOM Mapping | Issues |
|---|---|---|---|---|
| Prescription UID | ID for Radiotherapy Prescription | 1 | RT Physician Intent SOP Instance UID? | DICOM mapping? |
| Previous Prescription Sequence | | | | |
| >Prescription Reference UID | | | | |
| >Prescription Reference Relationship | Defined Term (Predecessor or Concurrent) | | Plan relationship? | |
| Intent UID | ID for Intent Instance | 1 | RT Physician Intent SOP Instance UID? | DICOM mapping? |
| Treatment Site Sequence | | | | |
| >Treatment Site | Free text describing treatment site | 1 | Treatment Site | |
| >Site Code | Coded description of the treatment site. Shall use ICD-10 codes. | 0-N | Treatment Site Code Sequence | >1 code needed? |
| >Site Code With Morphology | Coded description of the morphology. Shall use ICD-O codes. | | | |
| >Diagnosis Code | Coded description of the condition to be treated by this Intent. Shall use ICD-10 codes. | 0-N | RT Diagnosis Code Sequence | >1 code needed? |
| | | | | |
| Treatment | Free text describing | 1 | Treatment Site | |

| Site | treatment site | | | |
| Prescription Sequence | Sequence containing Prescriptions to deliver therapeutic radiation | 1-n | RT Prescription Sequence | |
| >Prescripton Label | User defined label for prescription | | RT Prescription Label | |
| >Prescription Index | Index of Prescription | | RT Prescription Index | ==Points to DICOM material (a Physicians Intent IOD can have more than 1 prescription. This is a numeric indicator of the position of the Rx in the Rx sequence in the PI IOD)== |
| >Treatment Technique Code | Coded description of the radiotherapy technique to be used | 1 | RT Treatment Technique Code Sequence | |
| >Dose Per Fraction | Nominal dose to highest-dose target volume for prescription | 1 | <GAP> | DICOM mapping? |
| >Number of Fractions | Number of fractions to be delivered for this prescription | 1 | <GAP> | DICOM mapping? |
| >Frequency of Delivery | Free text describing the frequency of delivery for this prescription | 1 | <GAP> | |
| Total Dose | Nominal composite dose to be delivered for all items in the Prescription Sequence. | 1 | <GAP> | DICOM mapping? |

**Session Results Message Content**
==(Session is defined to be the patient time spent in one visit to a given delivery machine. Assumed that this message is sent very soon after a session is completed.  A "Partial Complete" session message can also be sent with a session UID that matches a previously partial session, with a fraction status of Complete, the purpose of which is to allow the EHR to mark a previously partial fraction as complete)==

| Data Item | Description | VM | DICOM/Source Mapping | Issues |
| --- | --- | --- | --- | --- |
| Session UID | Treatment Session UID | 1 | TMS | DICOM mapping? |
| Session Start | Date and Time of | 1 | TMS | |

| | | | | |
|---|---|---|---|---|
| DateTime | Treatment Session Start | | | |
| Session End DateTime | Date and Time of Treatment Session End | 1 | TMS | |
| Appointment ID | Appointment Identifier for this Treatment Session | 1 | TMS | DICOM mapping? |
| Delivered Plan Sequence | Plans delivered during this Treatment Session | 1-n | | |
| >Plan Label | RT Plan Label for delivered plan | 1 | RT Plan Label | Emergency treatments? |
| >Plan UID | UID for delivered RT Plan instance | 1 | Referenced RT Plan Sequence | Emergency treatments? |
| >Fraction Number | Ordinal fraction number for delivery of this plan | 1 | TMS | |
| >Total Fractions | Total number of fractions for delivery of this plan | | TMS | |
| >Treatment Site | Treatment Site for this plan | 1 | Treatment Site | |
| >Nominal Fraction Dose | Planned Nominal Fraction Dose (Gy) for this fraction | 1 | TMS | This should always show the entire planned fractional dose. |
| >Nominal Fraction Dose Delivered | Nominal Fraction Dose (Gy) delivered for this fraction | 1 | TMS, RT Treatment Session Record | |
| >Cumulative Nominal Plan Dose | Cumulative Nominal Dose (Gy) delivered for this dose at the end of this session | 1 | TMS | This value should match the sum of all values found in Nominal Fraction Dose Delivered for the all Fractions |
| >Delivery Completion Status | Completion status for delivery of this fraction | 1 | TMS | Completed / Partial |
| >Prescription UID | ID for Radiotherapy Prescription | 1 | RT Physician Intent SOP Instance UID? | DICOM mapping? Palliative cases are out of scope for now. |
| >Resource Label | Label for RT Delivery Resource used for this plan delivery session | 1 | <GAP> | |

| >Resource UID | UID for RT Delivery Resource used for this plan delivery session | 1 | <GAP> | |
|---|---|---|---|---|
| >Department Name | Name of Department in which this plan delivery session took place | 1 | Institution Name in RT Treatment Session Record | DICOM mapping? |

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XIX. Topic 10: Connectathon
    a. Anticipated number of products ready to be tested (from Feb 2018 TC meeting):
320
        **i. BRTO-II**
            1. Contourer: 5
            2. Dose Planner: 3
            3. Dose Display: 4.1
        **ii. MMRO-III**
325
            1. Registrator: 5
            2. Reg Contourer: 4
            3. Reg Display: 4+
            4. Reg Dose Display: 3
        **iii. TPPC**
330
            1. Producers: 3
            2. Consumers: 3.1
        iv. TDW-II
            1. TMS: 2
            2. TDS: ?
335
        v. TDW (informal)
            1. TMS: 2
            2. TDS: 1+

    b. Schedule for next Connectathon:  Milestones and Deliverables
340
        i. Judges selected:  May 18, 2018
        ii. ICT Test tool updates:  May 18, 2018
            1. Detailed documentation for batch use of test tools
            2. Shorten executable and other paths
            3. Custom location for dataset definition
345
            4. Specify location for results files
        iii. Contracts distributed to vendors: June 1, 2018
        iv. Questionnaire to vendors:  July 13, 2018
        v. Test Procedure for content validator: July 13, 2018
        vi. Distribute pre-test datasets: July 13, 2018
350
        vii. Judges work session at AAPM Annual Meeting: Aug 1, 2018
        viii. Questionnaire returned: August 10, 2018
        ix. Test results due: Aug. 10, 2018
        x. Hilton Garden Inn reservation deadline: Aug 24, 2018
        xi. Connectathon datasets to vendors:  Aug 31, 2018
355
        xii. Connectathon: Sept 17-22, 2018

XX. Topic 10.5: Query / Retrieve in RO (QRRO)

360    a. Koua Yang reviewed version 1.8 of the QRRO Profile document. A spreadsheet listing attributes to be used as Query Keys for Matching and Query Return for SCUs and SCPs was reviewed.
       b. The TC reviewed Section 2.2 DICOM Usage Conventions of the IHE-RAD_TF_Vol2. This section defines IHE behaviors of SCUs and SCPs with respect to Matching and Return Keys.
365    c. The TC began consideration of attributes in the RT General Plan Module to identify requirements. Results of the discussion are captured in spreadsheet QRRO_1.9.xlsx (uploaded to the ihe-ro.org wiki).
       d. [to be further summarized 4/13/18 AM]

370 [Adjourned for the day 4/12/18 at 5:35pm PDT]
    [Resume meeting 4/13/18 at 8:40am PDT]

XXI.    Topic 16: TDW-II
375    a. Thomas Schwere reviewed recent proposed changes in the TDW-II. Content requirements have been moved to Chapter 7 to allow sharing with IPDW and DPDW Profiles.
       b. Section 7.5.1 contains C-FIND General Purpose Requirements for Unified Procedure Step, which are shared among workflow profiles.
       c. A Concept ("Plan Label") was added to the Scheduled Processing Parameters Sequence Items
380    (Table 7.5.1.12.1.2-2) in the UPS C-FIND Response. Since there is no existing DICOM code for Plan Label, a private IHERO Code Scheme is to be used in the interim. The TC discussed other items to added to the Processing Parameters Sequence include
            i.   Current Fraction Number
            ii.  Number of Fractions Planned
385    d. Can medical alerts be flagged in UPS response? Probably not, since this information is not present in BDI or RT Plan.
       e. TDW-II with these changes is to be tested *informally* at the 2018 Connectathon.
       f. ACTION 180407: Thomas to check on private codes and publish updated Profile text (v2 rev 13)
390
XXII.   Topic 10.5: Query / Retrieve in RO (QRRO) (continued)
       a. Further discussion of requirements for Q/R keys for RT Plan in spreadsheet QRRO_1.9.xlsx
       b. ACTION 180408: Koua to complete preliminary draft of Q/R requirements for RT Plan in spreadsheet QRRO_1.9.xlsx for discussion at the next Tcon.
395
XXIII.  Topic 17.5: ROI Template
       a. Walter reviewed the latest revision of the ROIT Profile.

XXIV.   Topic 15: Ion Profile – no update this meeting
400
XXV.    Topic 18: Treatment Delivery – Record Content
       a. RT Ion Beams Treatment Record content to be added
       b. No specific update this meeting.
       c. ACTION 180409: Chris to send Sanjay TDRC draft for review by Elekta.
405
XXVI.   Topic 19: Review Minutes

XXVII.  Topic 20: Review Action Items

410 XXVIII. Topic 21: Future Meetings / Next Agenda

a. IHE-RO TC Meetings
   i. Post-AAPM – Aug 1, 2018 at 2pm through Aug 4, 2017 at noon, Nashville, TN
      Topics: RXRO, QAW, HIS, TDRC, QRRO, Test Tools, 2019 Schedule

420
   ii. Fall Connectathon – September 17-22, 2018, AAPM HQ
b. IHE-RO TC Tcons
   i. Third Tuesdays at 11am ET
c. Other meetings of interest
   i. DICOM WG-07

425
     1. May 14-18, 2018, MITA, Washington, DC
     2. October 24-27, 2018, post ASTRO
     3. December 3-7, 2018, (tentative) Melbourne, FL
   ii. PTCOG     May 21-26, 2018, Cincinnati, OH
   iii. AAPM    Ann Mtg.   Jul 30, 2018 – Aug 2, 2018, Nashville, TN

430
   iv. ASTRO    Oct 21-24, 2018
   v. RSNA    Chicago, IL

XXIX. Next IHE-RO Tcon Agenda
   a. Test Tool development priorities and budgeting for 2019 (prepare for Face-to-Face discussion

435
     in August)

XXX. Meeting Adjourned at 11:55 am PDT

440

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MEETING TOPICS

Tuesday April 10:
  2:00 – 2:10 Settling and Setup
  2:10   Call to Order
  2:10 – 3:30 Observers / New Participants
    Time For New Attendees
      Comments?
      Use Cases?
      Feedback?
      Questions?
  3:30 – 5:00 Meeting Scope
    Review Agenda
      Note reserved times for DICOM WG-7, ICT Test Tools, and HIS discussion.
    Other broad topics to add.
    Minutes from last meetings
      Jan – March 2018
    Topic 1: Goals for Week
      Technical Framework
      Advance Profiles:
        Prescription in RO (RXRO)
        Quality Assurance Workflow (QAW)
        HIS
        Treatment Delivery – Record Content (TDRC)?
        Query / Retrieve in RO (QRRO)?
      Test Tools
        Educate
        Requirements for Connectathon
      Connectathon prep schedule
    Topic 2: Profile Statuses
      Technical Framework
      Public Comment
      In Process
      Priorities
  Wednesday April 11

8:00 – 8:30 DICOM WG-7 Teleconference
8:30 – 12:30 Morning
    Topic 3: Level Set
        Updates on IHE-RO activities
            Planning
            Oversight, Steering Committees
            Domain Coordination Committee
        AAPM
        DICOM WG-7 Update
        AdvaMed and Standards Efforts
            RT2- Radiation Therapy Readiness check
            RT3-Beam Model Standard
            RT4-(potential) Standard for Machine, Patient QA
    Topic 4: Prescription Profile (RXRO)
    Topic 5: Review of MMRO-III needed?
1:30 – 5:30
    Topic 6: 2$^{nd}$ Gen Profiles
        Radiation Sets
        Radiations
        Is there a "BRTO" for 2$^{nd}$ Gen?
    Topic 7: QA Workflow Review
Thursday April 12
    8:30-12:30
        8:30 – 9:30 Topic 8: ICT Tools
            How to Use
            Expectations for Connectathon
        9:30 – 10:30 Topic 9: HIS Profile Next Steps – Call with Tucker Meyers
            Existing IHE Technical Frameworks? (see Feb. Minutes)
            PC and Dose Elements group (see Feb. Minutes)
        Topic 10: Connectathon
            Which Profiles?
            Schedule for next Connectathon
                Milestones and Deliverables
        Topic 11: RO History profile (ROTH)
            Feedback from Clinical, next steps
            Use of KOS
        Topic 12: 4D Image Import
            Feedback from DICOM Working Groups
    12:30 – 1:30 Break
    1:30 – 5:30 Afternoon
        Topic 13: TPPC
            Updates
        Topic 14: Brachy Profile
        Topic 15: Ion Profile
        Topic 16: TDW-II
        Topic 17: Update on IPDW template decision

Friday February 9
       8:30 – 12:00 Morning Session
            Topic 18: Treatment Delivery – Record Content
            Topic 19: Review Minutes
            Topic 20: Review Action Items
            Topic 21: Future Meetings / Next Agenda

For more information specific to the IHE-RO Technical Committee, visit www.ihe-ro.org.