IHE-RO Technical Committee
Face-to-Face
March 18-21, 2024, 8:30-17:00 CET
March 22, 2023 8:30-12:00 CET

Technical Committee Chairs:
Scott Hadley, PhD, University of Michigan
David Wikler, IBA

IHERO Working Group Co-Chairs
Bruce Curran, MS, ME, FAAPM, FACMP, FACR, AAPM / VCU Health
Bridget Koontz, MD

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	3/18	3/19	3/20	3/21	3/22
David Wikler	IBA	David.Wikler@iba-group.com	X	X	X	X	X
Walter Bosch	Wash. Univ.	wbosch@wustl.edu	X	X	X	X	X
Jim Percy	Elekta	Jim.percy@elekta.com	X	X	X	X	X
Thomas Schwere	Varian	Thomas.Schwere@varian.com	X	X	X	X	X
Bruce Rakes	Mevion	rbrakes@mac.com	X	X	X	X	X
Bob Pekarek	Accuray	bpekarek@accuray.com	X	X	X	X	X
Ning Wen	United Imaging	ning.wen.v@cri-united-imaging.com	X	X	X	X	X
Jingjie Zhou	United Imaging	jingjie.zhou@united-imaging.com	X	X	X	X	X
Xiao Gu	United Imaging	Xiao.gu@united-imaging.com	X	X	X	X	X
Stefan Boman	Elekta	Stefan.Boman@elekta.com		X	X	X	
Florence Denblyden	IBA	florence.denblyden@iba-group.com				X	
Necla Kurt Yusuf	IBA	necla.kurtyusuf@iba-group.com				X	
Richard Vögele	Brainlab	richard.voegele@brainlab.com	T	T			
Christof Schadt	Brainlab	Christof.schadt@brainlab.com	T	T			
Stina Svensson	Raysearch Labs	Stina.Svensson@raysearchlabs.com		T			
Martin von Siebenthal	Varian	martin.vonsiebenthal@varian.com			T		
Rishabh Kapoor	VCU/VHA	Rishabh.kapoor@va.gov			T		
Scott Hadley	U. Mich.	swhadley@umich.edu			T		
Sanjay Bari	Elekta	Sanjay.Bari@elekta.com				T	

X = In person, T = Via Teams

Minutes:

Monday 3/18/24

I. Meeting was called to order at 9:00am CET

II. Meeting Scope
   A. Review Agenda – The meeting agenda was discussed and adjusted.
   B. Minutes from TC teleconference on Feb. 15, 2024 were reviewed: Motion by David Wikler was seconded by Bob Pekarek and approved without objection or abstention.

III. Topic 1: Review of IHE-RO Profiles Status on IHE Wiki (https://wiki.ihe.net/index.php/Profiles#IHE_Radiation_Oncology_Profiles)
   A. Profile status levels: Draft, Public Comment, Trial Implementation, Final Text
   B. Review of the status of active Profiles
   C. Discussion of the types of Profiles: Content, Workflow, Transport
   D. Application areas for DICOM and FHIR standards in IHE Profiles. FHIR-based IHE Profiles can be expressed using FHIR tools including FHIR Short Hand (FSH) and can include examples.

IV. Topic 2: BRTO-III (Jim Percy)
   A. Jim Percy reviewed a draft of the BRTO-III Supplement (rev 1.2)
      1. BRTO-III brings content up to date with respect to some DICOM CPs
      2. Questions discussed
         a. What is the relationship of BRTO-III to the BRTO-II Profile? I.e., to what extent is BRTO-III content compatible with BRTO-II?
         b. Cross-profile conversion: Should conversion (e.g., BRTO-II → BRTO-III) be tested? Suggestions that this can probably be covered by cross-profile dependencies.
         c. Relationship of HDSS to BRTO-III: Should Contour Geometric Type constraints be included in HDSS?
         d. Discusson of Workflow versus content Profiles. BRTO-II has "workflow" aspects/assumptions. Consensus that BRTO-III is pure content. Do we need to change the names of Actors to avoid confusion?
      3. Proposal to split Profile into two pieces: one for Structure Set content and one for Dose content. Examine content requirements for various use cases.
      4. ACTION 240301: Jim to split BRTO-III draft into Structure Set content and Dose content Profiles.

V. Topic 3: HDSS (Richard Vögele)
   A. The HDSS Profile was recently approved for Public Comment and is being prepared for release.
   B. Open Issues
      1. Retain all ROIs in their original orientation, i.e. in the orientation of their original source image series or re-oriented in the orientation of the reference image set?
         a. Retaining the original source image series orientation preserves information, but requires more effort by the consumer.
         b. Re-orienting into the orientation of the reference image set requires more effort on the Structure Set Creator. This approach simplifies rendering on the reference image series, but requires resampling when displaying on the original source image series.
      2. Can a Structure Set contain both "regular" (i.e., BRTO-based) and "HD" contours defined by HDSS?
      3. Should it be allowed to contain the same structure both as an ROI defined as in BRTO and an ROI defined as in HDSS? How to indicate that they are two versions of the same structure?
      4. As a new Profile, should it comply with verb-noun construction for Transaction names?
   C. Other questions
      1. Timing with respect to BRTO-III. Which one will be first?
      2. How to test?
   D. ACTION 240302: Potential vendors of HDSS Producers and Consumers to assess effort required to handle HD contours (a) in original image orientation and (b) re-oriented into reference image orientation (and report at the April 25 HDSS subgroup meeting).

VI. Topic 4: Review Connectathon Tests Issues

A. BRTO-II – Options for representation of "inner" contours
   1. Amend BRTO-II to require keyholing
   2. Amend BRTO-II to allow CLOSED_PLANAR_XOR
   3. Retire BRTO-II

B. MMRO-III
   1. Section 3.17.4.1.2 has wording regarding referenced image instances that needs clarification. The phrase "contributed to the definition of the spatial registration" is vague. Also, the acceptable behavior of consumers for images not referenced in the Registration Sequence is not well defined.
      a. ACTION 240303: Richard to evaluate the following change to MMRO-III Section 3.17.4.1.2:

         A Registration Sequence item shall contain a Frame of Reference and a list of images which have been available to the user at the time of definition and contributed to the definition of the spatial registration. Images not included in the list of images shall not be assumed to be consistent with the Spatial Registration recorded, e.g. registration of these images is unverified.

C. TPPC
   1. Effective Wedge Angle – need to clarify calculation method for Virtual Wedge Actor, Motorized Wedge Actor.

D. TDW-II
   1. Consider CP for the TDW-II Profile and/or explicit requirement in TDRC(-ION) should be to clarify how completion of beam delivery is to be determined and by which Actor.
      a. Use Treatment Record Termination Status to determine whether to delivery additional MUs in resumption.
      b. Do not include beams with Termination Status=NORMAL in the BDI Beams Task Sequence for a resumption.
      c. TDD needs to report the remaining MU to be delivered in case delivery is incomplete but MU delivered <= MU prescribed.

E. Scope of Testing: Profile Use Cases vs. Product Intended Use
   1. Products tested as Actors to be evaluated for adherence to Profile requirements for the content or workflow that is *within their Intended Use*.
   2. Manufacturers to be directed (recommended?) to include a statement in their Integration Statement that "Product interoperability has been tested (only) within the scope of its Intended Use". Should also indicate what Profile Use Cases are not included in Intended Use.

VII. Topic 4.5: Motion Management

A. No update at this time.

B. ACTION 240304: David Wikler to confer with IHE-RO Planning Committee regarding motion-management related use cases.

VIII. Day 1 Wrap-up

Adjourned for the day 3/18/24 at 5:35pm CET

Tuesday 3/19/24

Resume meeting 3/19/24 at 9:02am CET

IX. Topic 5: New Use Cases

A. United Imaging Presentation (Jingjie ZHOU, Xiao GU, Ning WEN)
   1. Jingjie Zhou presented an overview of United Healthcare Group companies and products
   2. 100+ products in radiology and radiotherapy (RT products are currently licensed only in the Chinese market)
   3. Workflow: plan created in TPS, stored in TMS, delivered in TDD
      a. Online adaptive RT workflow may involve a secondary SubTMS and TPS integrated with the TDD.

b. Communication between the main TMS and sub TMS is needed to simplify online ART workflow, maintain treatment schedule and records, review treatment adaptations and track the dose.
c. Several possible solutions were discussed, including the following options:
    i The main TMS supports everything, including plan approval.
    ii The main TMS supports only prescription, dose tracking, and billing.
d. Actors for second option above:
    i EMR – performs check-in
    ii Main TMS (OIS) – creates prescription, supports offline image review
    iii Sub TMS – schedules session, supports online image review, records approvals
    iv TDD – delivers treatment
    v OST – stores planning and treatment verification instances
    vi TPS – plans/re-plans
e. Possible solutions for transactions include the following:
    i FHIR/HL7 (XRTS) for reporting of approvals, treatment summaries between SubTMS and Main TMS.
    ii DICOM UPS (TDW-II) between SubTMS and TDD
f. Continued discussion of this Use Case with Adaptive Workflow on Thursday.

4. Workflow: CT Simulation may be performed during first treatment session and SubTMS needs to transfer all information to Main TMS

X. Topic 6: CDEB

A. Christof Schadt reviewed the status of the CDEB Profile and related updates to the DICOM standard.
1. The Dose Reference Sequence contains a dose reference item for each TARGET in the plan. There was much discussion in the last meeting regarding the definition of "TARGET". Several target types were identified: TARGET, OAR, INNER_TARGET, CONCURRENTTARGET, PRIOR_TARGET.
2. Handling of multiple targets is required for all consumers (per closed issues in CDEB draft).
3. Dose references for RT Ion Plans and RT Ion Beams Treatment Records are now included.

B.

C. DECISION: Motion by Bob Pekarek to promote the CDEB Profile to Public Comment, seconded by Bruce Rakes and approved without objection or abstention.

D. ACTION 240305: Christof Schadt to clean up Profile draft and send to Jim Percy for review and publication by Mary Jungers.

XI. Topic 7: MMRO-III/DRRO

A. DRRO
1. DRRO Update was reported by Stina Svensson
    a. DRRO Actors and content requirements for DSRO, Image, and Dose
    b. DRRO Workshop 2022 – focus on DSRO content and testing
    c. DRRO Workshop 2023 – focus on deformed images and dose
    d. Connectathon 2024
        i Fine tuning of test data
        ii Updated test tools
        iii Conventions for nomenclature of data objects
2. The following correction was made to the Attribute Description for >Referenced Image Sequence in section 7.4.15.1.1

>Referenced Image Sequence	(0008,1140)	O+*	Identifies the set of images registered in this sequence item. Shall be Empty or shall ~~**include the set of images**~~ **contain the Series of images** within the specified Source Frame of Reference UID (0064,0003) **used to perform the deformable registration.**

3. ACTION 240306: Walter to check that the highlighted text above is consistent with the revised DRRO Profile rev. 1.2.4.

B. MMRO-III
1. During the 2023 Connectathon it was determined that changes are needed to the requirements for the Referenced Image Sequence in the Registration Sequence. Description of the Referenced Image Sequence in section 7.4.10.1.1.2 and the paragraph beginning "A Registration Sequence item…" in section 3.17.4.1.2 require revision.
2. ACTION 240307: Jim to revise the conditions for reference images in MMRO-III for review by the TC.

XII. Topic 8: IBA HQ Visit

XIII. Topic 2: BRTO-III (continued)
A. Jim Percy continued review of the BRTO-III Profile draft.
1. Requirements for codes used in ROI Observations. Consensus that it is not necessary to display the Code Meaning literally. However, the mapping of code values to the manner in which they are displayed by an application must be documented in the DICOM Conformance Statement.
2. Discussion of defined Terms for ROI Interpreted Type.

XIV. Day 2 Wrap-up

Adjourned for the 3/19/24 at 5:20pm CET

Wednesday 3/20/24

Resumed meeting 3/20/24 at 9:10am CET

XV. Topic 9: TDRC – (Brachy, Ion) / TPPC – (Brachy, Ion)
A. TPPC-Brachy/TDRC-Brachy (Jim Percy)
1. Review of Public Comment responses for TPPC-Brachy
a. Requirement for specification of Channel ID: Concern expressed regarding the availability of afterloader Channel IDs in the Treatment Planning System and their relationship to Channel numbers. Assignment of Afterloader Channels to Channel Numbers may be performed at delivery and may not be known during treatment planning.
b. ACTION 240308: Jim Percy to reach out to Yuri to reply to this issue.
2. Re-working TPPC-Brachy and TDRC-Brachy as Content Profiles
a. Map all Actors to Content Creator and Content Consumer. Requirements for Content are specified in Content Modules and are distinguished by Use Case context (HDR, PDR, LDR Permanent, LDR Temporary).
b. No Transaction specification in Volume 2.
c. Content Modules are documented in Volume 3 for each DICOM IOD and Use Case context.
d. ACTION 240309: Jim Percy to reach to Mary Jungers to re-work TPPC-Brachy and TDRC-Brachy as Content Profiles.
B. TDRC-Ion Public Comment responses
1. Couch positions when imaging are needed to check whether correction has been applied. Recording table positions before imaging and after correction in setups.
a. Proposal to add clarification that a machine may record every change in table top position or rotation by adding a new setup item to the Ion Control Point Delivery Sequence.
b. ACTION 240310: Bruce Rakes to add clarification to TDRC-Ion allowing multiple setup items in Ion Control Point Delivery Sequence for review in the Ion subgroup.
C. TPPC-Ion Public Comment responses
1. TPPC-Ion has been tested informally.
2. Requirements for setup beams in RT Ion Plan to be addressed in TDPC.

XVI. Topic 10: TPIC / TDIC
A. TPIC and TDIC have been combined as the IGRT Imaging Content Profile. David Wikler presented a first draft of IGRT-IC

1. Scope is anatomic transmission radiographic imaging (kV and MV). It includes CT, radiographs, DRRs used for patient positioning and verification (online or offline).
2. Defines "Reference Image" and "Position Verification Image".
3. Content Profile with two Actors: Content Creator and Content Consumer. No Transactions.
4. Open issues discussed:
    a. Include Spatial Registration IODs using MMRO-III Content Module for 3D/3D registrations?
    b. Is a new Content Module needed for 2D/3D registrations? … for 2D/2D registrations?
    c. Include DICOM CP 2374 to represent Image-to-Equipment mapping? (needed for CT-on-rails)
    d. Should Spatial Registration content be addressed in its own Profile, e.g., IGRT-REG? or combined with IGRT image acquisition?
5. Example IGRT Use Case was discussed:
    a. Actors: CT-on-rails, IGRT System, OST, TDD/Patient Positioner, Offline Reviewer
    b. IGRT System (Registrator) has multiple inputs and outputs:
        i Inputs: CT Image ("unlocalized" from CT-on-rails), Planning CT (from OST), RT Structure Set (optional, from OST), RT Plan (contains isocenter, from OST)
        ii Outputs: couch corrections (to TDD/Patient Positioner), Spatial Registration (to OST)
6. ACTION 240310b: David Wikler to address the above issues in a second draft.

XVII. Topic 11: XRTS

A. Martin von Siebenthal reported on progress on the XRTS Profile
1. Trial Implementation has focused on Course (and Phase) of Treatment, and Volumes treated.
2. Next version of CodeX is going to ballot in May 2024. It distinguishes prescription, planned, and delivered dose. Proposals of optional extensions describing Plans and Treatment Fraction and Treatment Session are being developed.
3. Renamed Treatment Summary to Course Summary (mandatory) and Phase Summary (optional).
4. XRTS is a combination of Workflow Profile. Content requirements mostly come from CodeX (with addition constraints for some elements).
5. Profile dependencies: XRTS → CodeX → mCODE → FHIR US Core → FHIR
6. The Treatment Summary Provider is responsible for creating Patient and Volume resources before creating the Course.
7. CodeX RT changes STU1 → STU2 (May 2024 Ballot). See https://build.fhir.org/ig/HL7/codex-radiation-therapy/change_log.html
    a. mCODE dependency to STU3
    b. Add Radiotherapy Treated Fraction and Radiotherapy Treatement Session
    c. Add RadiobiologicMetric extension
    d. Retire SNOMED CT code Radiation oncology AND/OR radiotherapy (procedure) → must now use Radiotherapy (procedure)
    e. Relaxed Binding Strengths
    f. Add Motion Management and Free-Breathing Motion Management Technique
    g. Add Image Guided Radiotherapy (IGRT)
    h. Add Intrafraction Verification

B. Tools for Profile development – can an IHE Profile be developed from a FHIR IG? If so, how is it translated to the TF?
1. Walter Bosch raised this issue in IHE Testing & Tools Committee call (3/20/2024 at 9:00 CDT). Discussion with Mary Jungers and John Moehrke:
    - Yes, this has been done in several domains, including Radiology, …
    - The IG Publisher tool can be used
    - There is a (specific) GitHub repository to be used
    - Use appropriate template to add Vol 1, Vol 2, Vol 3
    - John Moehrke and Mary Jungers are available to help.

XVIII. Topic 12: ROTH

A. Scott Hadley presented an update of ROTH subgroup developments.
1. ROTH extends the XRTS data model to represent the dataset manifest

2. Tim Jones FHIR expert worked on this (Elekta Crawley) part of ROTH subgroup (with Jim)
3. In ROTH Folder in Box
4. FHIR Document (Bundle with Composition Resource created on request)
    a. With Manifest for DICOM artifacts
5. Different use cases leading to different content modules (send planning info, send all info, …)
    a. Maybe you only have the UID and not the object
    b. Should IHE-RO add human readable viewing capability (HTML rendering requirements?). This would be a key value for the user.
        i Like a README file
        ii No assertions in the scope as kind of emergency use cases
        iii The view should extract sorting categories, relationships between artefacts, ….
        iv Also valuable for a hospital to keep a trace in the OIS. (or even in the EMR if EMR vendors would be ready to implement this. May only stay in the specialty system)
        v Issue with dose artifacts as there is no reference to RT Dose Instance UID in the Plan
    c. Discussion on the source of truth to build the manifest
        i Today only the DICOM artifacts and not the FHIR Server (aggregating XRTS info)
        ii A consequence of requiring generation of the manifest at each step of the workflow is that not only the OIS should implement XRTS but also the TPS
6. ImagingStudy Resource
    a. FHIR resource with endpoint to specify where are the artifacts
7. How can a CT be used to compute a new dose ?
    a. There is no artefact for Electron Density calibration of a CT
    b. CT Simulation is generally redone and fused with previous dataset
8. Next Steps
    a. Take the first use case and write the use case in english
9. Who and why the original manifest created?
    a. Then it is updated with new versions
    b. Or should each manifest be independent
10. Starting with a simple Use Case
    a. TPS triggers to creation of a manifest template.
11. Approval of Structures and Plans
    a. How to transport Approval Status?
    b. Include unapproved plans in Plan Summary?

B. ACTION 240311: Thomas Schwere to start drafting Profile starting with the simple use case
    1. TPS to creates a manifest template
    2. TPS provides prescription and planning data

XIX. Day 3 Wrap-up

Adjourned for the day 3/20/24 at 5:25pm CET

Thursday 3/21/24

Resumed meeting 3/21/24 at 9:00am CET

XX. Topic 13: TDW Use Cases

A. Review of Treatment Session Workflow Profiles (David Wikler)
    1. TDW-II is in Trial Implementation and has been tested formally.
    2. Support for additional workitem codes is pending further discussion with DICOM WG-07. Interoperabiltiy requires that both TMS and TDD support the same codes.

B. Review of TDOR Profile draft Rev 1.2 (Thomas Schwere)
    1. Treatment Session UID is used to identify those artifacts created for a treatment session.
        a. Requires use of Treatment Sesson UID in TDW-II workflow.
        b. Semantics of “Treatment Session” are defined by the TMS implementation.
    2. Check that Test Tool validates presence of Treatment Session UID in TDW-II.
    3. Unscheduled use case: offline record without a prior TDW-II treatment session (“degraded mode”).

a. New workitem code for offline recording of unscheduled treatment.
b. Plan already stored in TDD (has been pre-fetched).
c. Include fraction number in N-CREATE.
d. Unscheduled (TDD-issued) Treatment Session UID
e. One session per UPS.

C. Presentation by Thomas Schwere – Varian Treatment Interface (Sept 2021)
1. RT Solution (RTS) supports Treatment Planning, Treatment Management, Treatment Delivery
2. VTI/FHIR interface between OIS and RTS (TPS/TMS/TDD)
3. Internal connectivity in the RTS may be either standard or proprietary.
4. VTI can also be used to expose treatment artifacts.
5. ACTION 240313: Thomas Schwere to investigate any patents or licensing issues that would restrict the free use of VTI or derivative for IHE-RO Integration Profiles.
6. ACTION 240313b: David Wikler to investigate with WG-07 if IHE-RO codes could be added to Part16 instead of creating DCM codes.

XXI. Topic 14: IPDW Retirement
A. Retirement of the IPDW and DPDW Profiles was discussed.
1. Both IPDW and DPDW are dependent on DICOM 2nd Gen RT objects whose development has been discontinued.
2. DECISION: Motion to retire IPDW and DPDW Profiles by Walter Bosch, seconded by David Wikler; approved without objection or abstention.
3. ACTION 240312: Jim Percy to update the IHE wiki to indicate the new status of IPDW and DPDW.

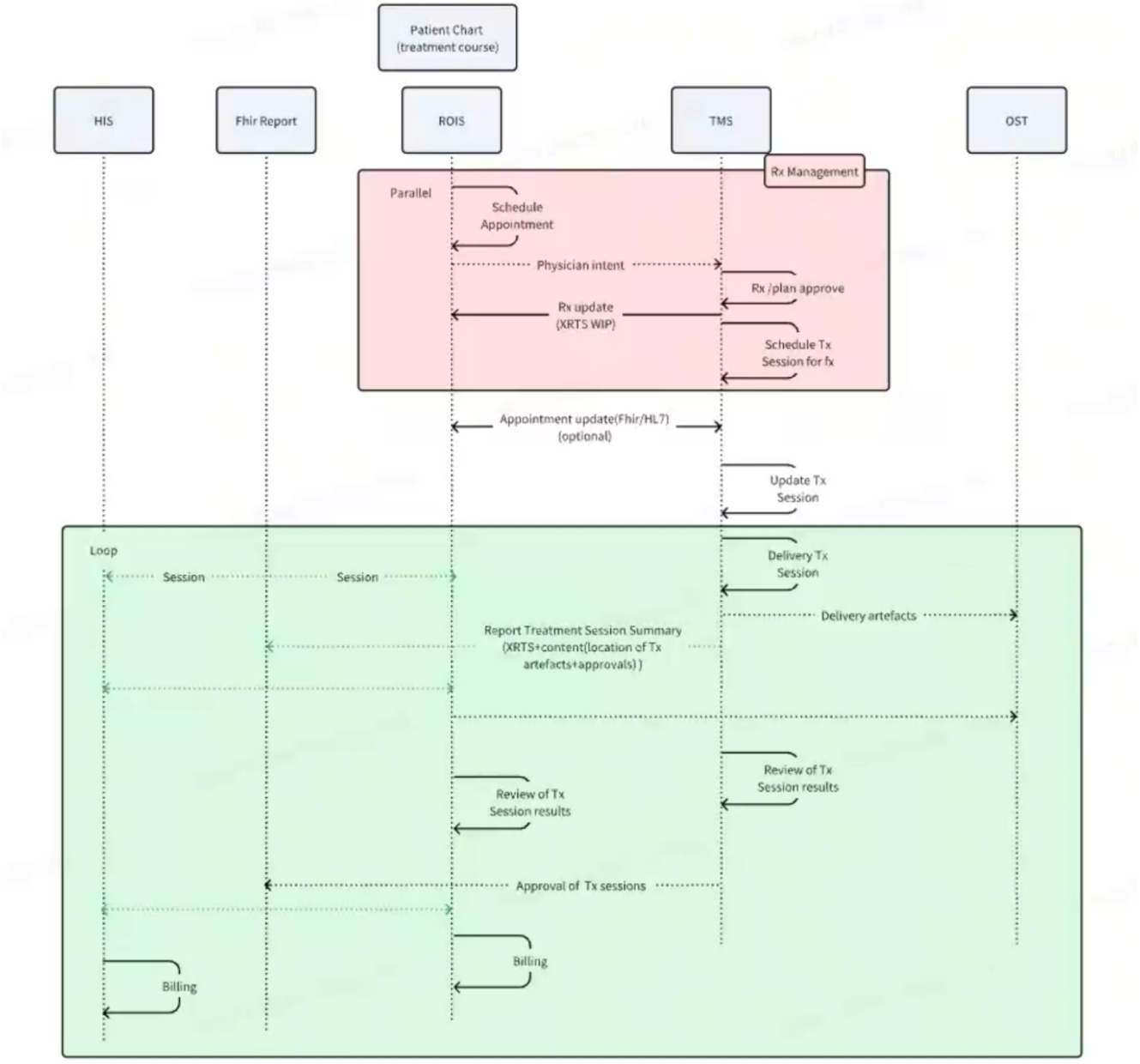
XXII. Topic 15: TDW Extension for IGRT (TDW-III)
A. TDW-III draft Profile (Rev 0.2) is in Box.
B. Adds Transactions to retrieve the static patient positioning instances and store the patient positioning results.
1. Two open issues remain:
a. New workitem code – uses a single, complex workitem for a combination of operations. (DICOM CP 2377). RT Image Guided Patient Positioning and Treatment Delivery.
b. Series-level references to CT Images.
i CPs for the needed changes in DICOM UPS has been rejected by WG-06 to date.
2. Scope: currently supports anatomic transmission radiography and tomography. Extensions to support surface imaging or another modality for patient positioning may be included in future extensions of TDW.
3. Trigger event for storage of Patient Positioning Results (RO-67) is the creation of imaging and positioning instances.
4. Zero or more patient positioning events may occur within a Treatment Session.
5. Optional transactions for TDD to subscribe to TMS UPS Worklist and TMS to notify TDD of UPS creation to avoid polling is presented. An alternative to polling is failing to retrieve selected UPS and trigger a refresh.
C. ACTION 240314: TC members to review the TDW-III Profile draft (rev 0.2) on Box (IHE-RO TC share > TDW-III > ihe_ro_supp_tdw-iii_0.2.doc) and provide feedback.

XXIII. Topic 15.5: TDW Extension of SGRT
A. Concepts discussed in TSWF
1. Scope: synchronization of Patient Session Context, including Patient, Plan, Beam
2. SGRT outputs recording
B. Technical Solution
1. TSM
2. UPS Watch/Event vs FHIRcast
C. Actors
1. TDD
2. TSM – actual worklist server
3. TMS – scheduled session worklist server
4. OST
5. Delivery Session Companion System(s)

D. What is missing?
   1. Handshake from Delivery Session Companion System and TDD before starting treatment. This may be handled by FHIRcast?
   2. Progress Indication as a measure of workflow steps completed (not just meterset delivered). This may be a challenge with multiple (companion) systems.

XXIV. Topic 16: TDW Extension for Adaptive Treatments

A. Boutique Machine Integration
   1. Internally, a boutique machine my comprise TPS/TMS/TDD
   2. FHIR Interface ROIS and TMS based on XRTS extensions between is drafted
      a. Scheduling of Appointments (in ROIS) and Treatment Sessons (in TMS)
   3. Process Flow for ROIS-TMS Transactions



   4. The "ROIS-TMS" is a working name for this Profile. A better name is needed!
   5. ACTION 240315: Jim Percy to draft a Clinical Impact Statement for ROIS-TMS.

6. Update 3/22/2024 (David/GenAI): proposed name of Profile is Shared Management of Radiation Treatments (SMRT) [pronounced as smart]. Consensus of the TC is to name the Profile SMRT.

B. The ROIS-TMS Transactions appear to support (most of) what is needed for Adaptive Treatments.
C. Additional artifacts for adaptive treatments include plan approval and QA documents.

XXV. Day 4 Wrap-up

Adjourned for the day 3/21/24 at 5:00pm CET.

Friday 3/22/24

Resumed meeting 3/22/24 at 9:00am CET

XXVI. Topic 17: 2024 Roadmap

A. Review of Profile Development Priorities and Goals for 2024 (see IHERO TC Share > Planning > **Profile_info_2024.xlsx** in Box)

1. High priority Profiles → 2024 Goals
   a. TDW-III → Public Comment
   b. SMRT → Identify XRTS/ROTH dependency and transactions/payload
   c. ROTH → Identify XRTS/SMRT dependency and transactions/payload

2. Medium priority Profiles → 2024 Goals
   a. TDW Extenstion for Session Orchestration → concept/solution agreement
   b. TDOR → foster prototype implementation with test tools, add unscheduled use case(s)
   c. IGRT-IC (TPIC + TDIC) → draft
   d. TDW-II → TF
   e. CDEB → TI
   f. ROIT → re-factor as a FHIR Content Profile

3. Low priority Profiles
   a. DOSE → merge with BRTO-III Plan Overview
   b. TPPC-Brachy → TI, seek PC opinion, reach out to Brachy task group?
   c. TDRC-Brachy → TI, seek PC opinion, reach out to Brachy task group?
   d. XRTS → advertise to more vendors
   e. DRRO → formal testing
   f. BQAW → follow up with Chris Pauer
   g. TDRC-Ion → TI and informal testing
   h. TPPC-Ion → TI and informal testing
   i. HDSS → TI
   j. MMRO-III
   k. BRTO-II
   l. TDRC → parked awaiting need, encourage testing
   m. TPPC → encourage wider testing
   n. TDPC → parked awaiting need, encourage testing
   o. QAPV → publish status “not currently implemented”
   p. DCOM → consider refactoring and linking with DRRO

4. Retired Profiles
   a. FDII → no solution found / cannot drive CT vendors
   b. QRRO
   c. TDIC
   d. TPIC
   e. TPSC (Treatment Planning Segmentation Content)
   f. TDW

g. RXRO → retire and supercede with XRTS
h. MMRO-II
i. IPDW
j. CPRO → dead?
k. BRTO
l. ARTI

XXVII. Topic 17.2: ROIT Profile (Walter Bosch)

A. Restart as a FHIR Content Profile. Start with DICOM based (ROI Template IOD draft).
B. Use FHIR Repository as a template library.
C. Include TG-263 modifications, margins, Boolean combinations?
D. Autosegmentaton, data QA, clinical trials are important use cases

XXVIII. Topic 17.3: Introduction for new IHE-RO members

A. Clarification of Profile description and status is needed for the benefit of new and prospective IHE-RO members.
1. What resources are available? What's in it for me?
2. How can new vendors become involved?
B. ACTION 240316: TC members to provide suggested content for Jim Percy to include in IHE wiki.

XXIX. Topic 18: Connectathon

A. How to address testing of products whose intended use does not cover (some) test cases.
1. Test cases are to be performed within the intended use of the Product.
B. Proposal discussed
1. Judges to test safe handling of unsupported use cases
2. Vendors to report Profile adherence for a subset of use cases.
a. Products are tested ***within their Intended Use***.
b. Include disclaimer in Integration Statement: "Product interoperability has been tested within the scope of its intended use". Should also include an indication of what Profile Use Cases were (were not) tested.

XXX. Meeting Wrap-up

XXXI. Adjournment 3/22/24 at 12:00pm CET

Meeting Block Schedule, rev. 3/19/24 17:35 CET

IHE-RO Technical Committee Face-to-Face Meeting
18-22 March 2024
IBA HQ, LLN, Belgium

	Monday 18-Mar-24	Tuesday 19-Mar-24	Wednesday 20-Mar-24	Thursday 21-Mar-24	Friday 22-Mar-24
Room	*C03 Aurora Borealis*	*C03 Kilimanjaro Room*	*C03 Victoria Falls Room*	*C03 Victoria Falls Room*	*C03 Victoria Falls Room*
08:30 - 09:00	Welcome	Welcome	Welcome	Welcome	Welcome
09:00 - 09:30	Review Agenda	New Use Cases	TDRC (Brachy, Ion) TPPC (Brachy, Ion)	TDW Use Cases	2024 Roadmap Connectathon
09:30 - 10:30	Review Connectathon Tests Issues			TDW Extension for IGRT (TDW-III)	
10:30 - 10:45	Break	Break	Break	Break	Break
10:45 - 12:15	BRTO III	CDEB	TPIC/TDIC	TDW Extension for SGRT	Wrap Up
12:15 - 13:30	Lunch	Lunch	Lunch	Lunch	
13:30 - 15:00	HDSS	MMRO/DRRO	XRTS	TDW Extension for Adaptive Treatments	
15:00 - 15:15	Break	Break	Break	Break	
15:15 - 17:00	Motion Management	IBA HQ Visit	ROTH	TDW Extension for Adaptive Treatments	