

IHE-RO PC Committee Conference Call

December 21, 2017 – 4:00 pm ET

IHE-RO PC Committee Leadership

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1. Call to Order
2. Administrative
 - a. Update on alternative website for PC to collaborate
 - i. Review results
 - b. Radiation Dose Element Standardization – next call will be January 12, 2018 at 3pm ET.
 - i. Scott working for better descriptions on list
 - ii. Let Jill know if you would like to be included in emails or calls
 - c. RO-ILS/IHE-RO joint presentation at ASTRO
3. TC Update:
 - a. Review of Use Case's – see Addendum A (Chris Pauer)
4. Other Business
5. Next meeting: Thursday January 18, 2018 @ 4:00 pm ET
6. Adjourn

Addendum A

New Use Cases:

- a. 4D Image Import (Score 3.75) - This use case would define the data elements needed by a TPS to facilitate import and use of respiratory correlated 4D CT and MRI. A TPS would be able to import phases of 4D imaging with enough information to collect the data for a user to plan respiratory motion managed radiotherapy.
 - i. Scott Hadley / Bob Pekarek– Clinical Impact Statement – February Review?
 - ii. TC candidate
 - iii. This is a content profile
 - iv. Not limited to CT, can also apply to MR, PET. Focused on respiratory motion.
 - v. Open issue: include cardiac motion? include “quasi-static” motion?
- b. Deformable Registration Objects (DRRO) (Score 3.88) - This profile addresses the need to exchange deformable image registration (DIR) information between different software systems for treatment planning and adaptive therapy.

- i. Scott sent note for vendor to take on profile – CIS already exists, Rickard possibly has resource, revisit in February
 - ii. TC candidate – some work has been done already
 - iii. How to gain more traction? Need to identify outstanding issues.

- c. RO History Exchange (Score 4.62) – This use case would give senders a path to package up treatment history records that are complete and concise; receivers get a concise package of DICOM that can be imported into planning systems and thoroughly document what the plan was and what was actually delivered. It would provide the vendors with an implementation of history exchange they can rely on to contain all the data elements to document treatment.
 - i. CIS – Scott will send to Chris. Chris to get new use cases on RO web page – Parminder Basran
 - ii. DICOM package for treatment plan that was actually delivered.
 - iii. Use case includes both treatment planning and treatment delivery (record) information. It is relevant to cross-enterprise exchange of treatment planning data for re-treatment, clinical trials, registries.
 - iv. This use case may include both content and workflow. However, it may be prudent to separate these.
 - v. More analysis is needed to clarify scope, content/workflow.

- d. Brachytherapy (Score 5.5) – **UNDERWAY!** - This profile addresses the need to transfer brachytherapy plan information from specialized brachytherapy planning systems to TMS or TPS software to facilitate planning of additional radiation treatments.
 - i. Need to evaluate scope and relationship to other IHE-RO profiles
 - ii. Addressing this Use Case with addition (or brachytherapy versions of) the BRTO-II, and TPPC Profiles was mentioned.
 - iii. The broader topic of how to deal with non-C-arm photon therapy plans in DICOM 1st Gen RT was raised.

- e. Multi-Modality Residual Dose Optimization (Score 5.62) - It is difficult to account for previously delivered radiation dose for individual patients when planning a second (or subsequent) treatment with a different vendor's radiotherapy treatment planning (RTP) system. DICOM (RT objects) in principle should contain the required information and communication protocol to transfer information between different vendor RTP systems. A Multi-Modality Residual Dose Optimization profile could require compliant RTP systems (also Oncology Information Management systems which act as a centralized data store) to support the transaction(s). The market interest as represented by the member clinics of the IHE-RO P.C. is high.

- i. **The DCOM Profile** already provides interoperable communication for Compositing Planner capabilities.
 - ii. Clarification is needed regarding what other capabilities are expected for this Use Case. Some of these may be product features, rather than interoperability issues.
 - iii. **TC to push back on development at this time.**

- f. Integrated Patient QA Checker (Score 5.75 *tie) - **UNDERWAY!** - Today many effective patient QA solutions rely on stand-alone systems. Lack of integration of these important QA systems with TPS and TMS systems greatly hinders the reliability and efficiency of the patient specific QA checks and their verification. The lack of integration causes not only a lot of manual work for clinicians but also an increased risk that patient is treated before the required QA checks on the treatment have been successfully completed. Manpower and the lack of reliability of manual entering QA check results to multiple systems also discourage the adoption of these patient QA systems into everyday operations.
 - i. Chris Pauer working on
 - ii. This Use Case appears to be essentially the same as the QA Workflow Profile.
 - iii. Consensus of the TC was to combine this Use Case with the QAW Profile.

- g. Quality Assurance Workflow Supplement (QAW) (Score 5.75 *tie) - **UNDERWAY!** - Using the RT Plan, Planning Images, RT Structure Set and RT Dose (or equivalents) produced by a Quality Assurance Planning Analysis (QAPA) Planning Data Provider (such as a Treatment Planning System) as inputs, the QAPA Planning Analysis Performer assesses the dose that will be delivered to the Structures and Dose References, and Reports on the findings. Results are stored with a QAPA Data Store actor (such as a Treatment Management System, PACS, or EMR). There is also the allowance that a QAPA Planning Session Manager would hold the order for the planning session, and would gather the outputs and progress of the Planning Analysis.
 - i. See above

- h. Archive of Radiation Oncology Plan and Treatment (Score 5.88) - This use case would create an IHERO profile that defines data content, storage, and retrieval.
 - i. In parking lot for now.
 - ii. "Time Capsule" use case to "future-proof" storage of treatment planning data.
 - iii. Vendor neutral archiving in a form that will be usable in 20 years.
 - iv. May include 1st to 2nd Gen DICOM re-coding

- i. Query and Retrieve in Radiation Oncology (Score 6.0) - This profile facilitates seamless retrieval of data required at various stages in a radiotherapy planning/delivery process.

- i. Put on agenda for review for February
- j. Survivorship Care Plan (Score 8.25) - This use case specifically addresses identity and formatting of data items to pass from radonc systems to hospital EMRs to meet the need for a Survivorship Care Plan.
 - i. There has been some progress in the RO HIS group on working out the essential information to be sent to an EMR to report on what was treated with RT (HIS Dose Elements).
 - ii. Treatment summary is a minimal subset of treatment plan information (at the level of detail of an RT prescription).
 - iii. Some discussion of staging information.
 - iv. The RT dose information is expected to be combined with surgery and medonc information in the Survivorship Care Plan.

IHE-RO expects to focus on HIS Dose Elements exchange and RXRO.

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