Principal Investigator's Report
Advanced Technology QA Consortium

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Review of 2007 ATC Steering Committee-Questions

- It is unclear how the data collected by the ITC will integrate with CTSU, caBIG, and VIEW initiatives.
- Is the CERR Monte Carlo development for the RPC under the ATC grant or the RPC grant?
- What are the ATC's near-term (1-2 years), mid-term (3-5 years) and long-term (5+ years) objectives.
- Document more clearly the respective roles of the various ATC components especially that of the RPC.
  - Roles of ITC and QARC appear clear for the different cooperative groups, but what exactly is RPC's role in ATC.
- How will ATC insure that appropriate & uniform QA procedures and criteria for AT trials are developed across all cooperative groups (RTOG, COG, SWOG,…) protocols. ATC should be able to demonstrate that this has in fact been implemented.

Review of 2007 ATC Steering Committee-Questions

- What are the specific clinical criteria in order for the ATC to be involved in support of a clinical trial. Is it just for the use of advanced technologies or will the ATC step in for 3DCRT. T
  - Needs to be defined as strictly as possible, or else ATC might digress from stated objectives.
- How will the imaging modalities & diagnostic radiology specialty including nuclear medicine be incorporated into the ATC.
- How will the QA for interpreting tumor imaging studies be done….. concept requires further thought and vision and further input and guidance is required.
  - QARC uses the expertise of a diagnostic radiologist to interpret COG data and they give excellent feed back for modifying RT fields.
  - What is done at RTOG etc. - nice to apply this principle across ATC.
  - May be there should be a diagnostic radiologist on the ATC Steering Committee in order to further advance this cause.

2007 ATC Steering Committee-Recommendations

- ATC needs to continue discussions with vendors about connectivity and needed tools for users to participate in trials.
- Software implementation/integration continues to require monitoring.
- Version of CERR, specifically for ATC activities, available at future Steering Committee meetings.
- ATC should continue to speak with commercial developers about being able to create composite plans of treatment delivery, including addition of treatment plans with multiple (and changing) image datasets.
  - It is clear that adaptive RT plans will need to be supported by the ATC.
  - It would be best if they resolved the larger issues about dealing with the data as soon as possible.

2007 ATC Steering Committee-Recommendations

- ATC should be proactive about resolving issues of intellectual property of the protocol data that have been submitted to date. Two types of data handling were discussed:
  - (1) making anonymous data available for software development purposes (e.g. auto-segmentation programs) and
  - (2) 3D data linked to outcome data for specific protocols.
- One consideration for future protocol patients is whether or not IRB consents need to be more explicit and include the range of possible uses of data.
- Proper use of legacy data (e.g. port films, paper records) and long-term storage of such data should be resolved.
- ATC should work with the consortium members and clinical trial groups to make it easier for individuals and institutions to know their credentialing status. For example, a facility questionnaire space could be on the ATC webpage.

2007 ATC Steering Committee-Recommendations

- ATC should continue to work towards decreasing the need for human intervention in the downloading of data to ATC website (currently 30% need intervention now).
- Tools for review of accuracy of image registration should be implemented where feasible to replace or be added to visual inspection for image assessment.
  - Clearly an area to work further with ACRIN. Also, the work of the AAPM Task Group on Image Registration should be monitored.
- ATC should consider expanding its infrastructure to support **non-RT clinical trials** (e.g., connecting with advanced technology in tissue banking).
- Support should be given to creating an Imaging Physics Center similar to the RPC for radiotherapy clinical trials.

2007 ATC Steering Committee-Recommendations

- ATC should get involved in all efforts connected with **inclusion of imaging into clinical trials**. Strong involvement into the VIEW project is welcome and should be further strengthened.
- ATC should closely monitor quantitative imaging phantom development (e.g., PET, MRI phantoms for quantitative imaging) and their use in credentialing.
  - For example, current practice within ACRIN is most frequently limited to the self-reported standard phantom. Most of phantoms are not optimized for RT needs, where both imaging and dosimetry phantoms should be ideally combined.
  - RPC's experiences in phantom development /credentialing etc should be utilized whenever possible.
- Other important activities that should be monitored are Image Response Assessment Teams (IRAT) network activities and CTSA activities.
- ATC should be directly involved into a potential IPC formation.

2007 ATC Steering Committee-Recommendations

- Increase ATC's **visibility and use of database resource** by individual investigators.
- ATC should put more efforts in self-promotion. Plans should be developed to increase promotion. Plans could include
  - increasing number of presentations at the main national conferences (e.g., organizing CE sessions) and organization of workshops (at meetings and independent).
- One of the holdbacks might be that general public is not aware what really is within the ATC database.
  - A comprehensive list of available data (both summarized and detailed), perhaps in a form of tables (e.g., grouped by disease sites, grouped by used technology) should be developed.
- ATC should try to provide more liaisons in cooperative groups, different society working groups etc.

2007 ATC Steering Committee-Recommendations

- ATC should try to work on a **global central accreditation database**.
  - Database could be created based on the existing credentialing data, and subsequently centrally updated every time a place gets a new credential.
  - Credentialing should include expiration date, which could be either linked to the trial, or a particular machine, or procedure.
  - If a particular site wants to enter the clinical trial, the particular cooperative group(s) could review database and require all, or just partial additional credentialing information.
- ATC should focus on being able to demonstrate that Gamma Knife data could be transferred during this funding cycle.
- One of the ATC's future projects could be globalization and leadership of the international clinical trial efforts.

2007 ATC Steering Committee-Recommendations

- Regardless of whether there are clinical protocols or not, ATC should think ahead and be prepared to show that it can meet the requirements of **most if not all** of the advanced technology modalities (including radiosurgery-brain/body, brachytherapy, protons etc).
- Development of an archival treatment planning and QA databases for all advanced technologies that can be linked with the cooperative groups' clinical outcomes databases is a very important goal and its relevance will increase as the ATC becomes more able to cater to **most if not all** of the AT-RT modalities.
- All aspects of the clinical treatment plan should be transferred so as to be able to recreate a particular treatment plan, if necessary.
- ATC should become a standard feature at ASTRO to familiarize young clinicians and physicists on its role/functioning and more importantly as a potential source for future research.

2007 ATC Steering Committee-Recommendations

- Mandate that all cooperative group RT-based clinical trials have a diagnostic imaging person formally included as co-PI on trial.
- Determine benchmarks with respect to # ATC-based studies that a given coop. group can handle at any one time.
- Create an e-ASTRO course on data mining of imaging datasets, which would likely yield hypothesis-generating analyses (i.e. abstracts, papers, grants, etc)
- Recommend that either an ATC Co-PI and/or ATC Steering Committee member serve on NCI site visits for cooperative groups for the latter's grant renewals.
- Appoint an ATC Steering Committee member as an ad-hoc member to Cooperative Group Coalition in order to keep this initiative on the agenda of the cooperative group chairs.
- Have an ATC member(s) appointed to CTSA National Steering Committee & appropriate subcommittees.

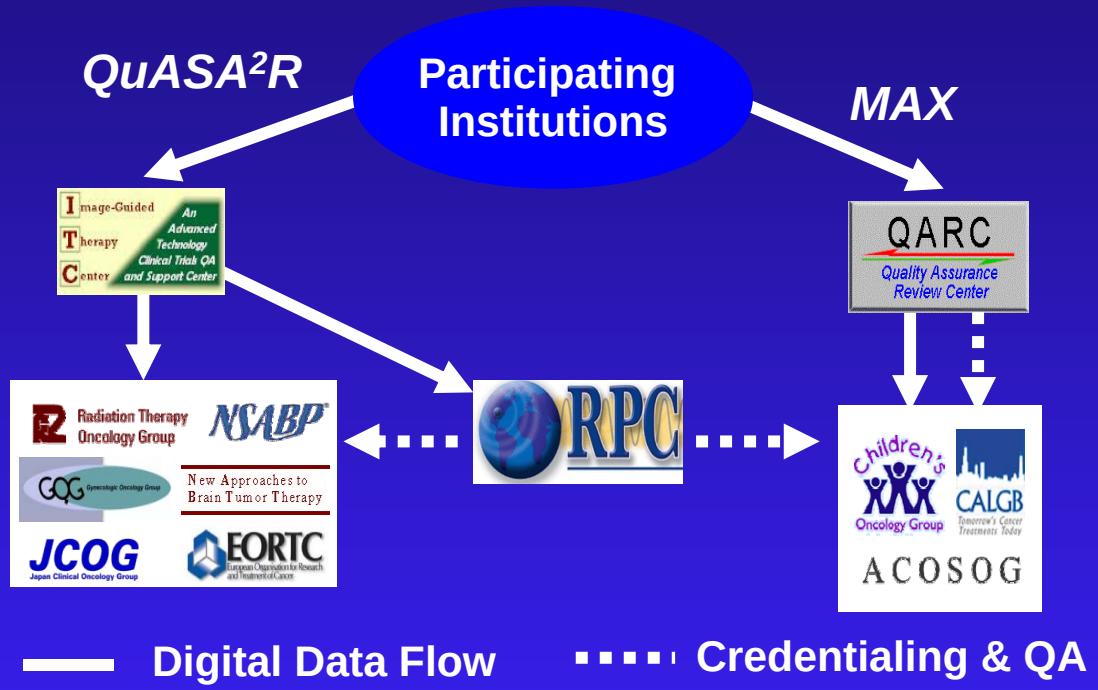
Coordination Efforts – Appointed ATC Standing Comm.

- Dr. Followill will provide an update today on *ATC Credentialing/QA Committee* whose mission is:
  - promote uniformity in credentialing/QA across cooperative groups (one of the specified goals of the ATC)
    - credentialing requirements
    - target volumes, OAR definitions, dose specification
    - QA procedures
    - data submission instructions
  - assess clarity and correctness (i.e., “setting of the bar”) of credentialing procedures.
  - Major new effort will be development of ATC endorsed IGRT guidelines led by RTOG
- Membership
  - Marcia Urie (Chair), Dave Followill (Co-chair), Jim Galvin, Bill Straube

Coordination Efforts – Appointed ATC Standing Comm.

- Dr. Bosch will provide an update today on *ATC Informatics Committee* whose mission is to:
  - Share pertinent information and provide input regarding the latest informatics technology available and/or used by the QA Centers/Cooperative Groups (*QuASA²R,* MAX, VIEW, TRIAD, caBIG(CDMS, Docu-MART, XIP, …), CTSU(OPEN),…)
  - Periodically review and assess the ATC's informatics infrastructure and developmental schedule.
  - Work with *ATC Council of Industry Participants*
- Membership
  - Walter Bosch (Chair)
  - Joe Deasy (Co-Chair)
  - John Matthews
  - Richard Hanusik
  - Huy Duong
  - Brenda Young - liaison ACRIN
  - Ying Xiao - liaison RTOG
  - Joel Saltz - liaison caBIG

ATC Support of Cooperative Groups (*Electronic Submission, Credentialing, Dosimetry, QA)*



- ATC effort has provided all U.S. Cooperative Groups the ability to submit case digital data (images /volumetric TP data to either ITC or QARC for QA and outcomes analysis.
- 599 institutions submit to ITC: (Supports 15 closed protocols (analysis) and 21 active protocols
- 20 commercial TPS (11 vendors) ATC compliant

QRRO-ATC Project

- Dr. Phil Devlin will review the status of the QRRO-ATC collaboration later today.
- Drs. Bosch and Matthews appointed to the QRRO *e-Data Committee* on Feb. 11, 2008. QRRO *e-Data Committee* chaired by Christopher Rose, M.D. and Phillip Devlin, M.D. (Vice-Chair)
- QRRO Prostate Seed Implant Project
  - Gather 150 post-implant prostate seed plans from 15 centers
  - Dose-Volume Analysis
    - Target: V100, V150, D90
    - Rectum: Davg, Dmax
    - Urethra: Davg, Dmax
  - No dose recalculation or seed localization anticipated.