Radiation therapy is a data intensive endeavor where multiple data transfers occur among various software applications, databases and treatment devices. Errors in data transfer or interpretation can lead to mistreatments. Hence, it is important to have recommendations for the quality assurance of data transfers for external beam radiotherapy. This is the subject of a rapid communication (RC) from the AAPM TG201. In this session, we will review the TG201 RC. An overview, rationale and administrative issues for a QA program will be described in terms of the responsibilities of the medical physicist for maintaining a systems approach to the clinical processes that require data transfers. The 14 recommendations of that section will provide the framework for the QA of treatment data, which is covered by another 14 recommendations that were deemed to be the most important issues by TG201. The remainder of the session will discuss recommendations regarding the logical consistency and integrity of the treatment database as well as imaging data that are transferred for image guided radiotherapy. We will conclude with an analysis of the manpower requirements for a data transfer QA program.

Learning Objectives:

1. Understand the data flow within the clinical processes for external beam radiotherapy, the errors that could occur, and the management of the QA program that is recommended for patient safety.
2. Organize the list of recommendations for treatment data transfer QA into a checklist that clinics could use to assess the state of their QA program.
3. Learn relevant database concepts within the context of information integrity and logical consistency of treatment data.
4. Determine the image data transfer recommendations that are applicable to one's clinic.