Purpose: To describe a testing workflow for generation, transfer, and use of DICOM Radiation Dose Structured Reports (RDSRs).

Methods: Equipment supporting RDSR was acceptance tested to validate the creation of report, and to validate reported parameters. A Computed Tomography (CT) scanner and three x-ray angiographic (XA) suites were tested. Testing of the RDSR includes; validating creation and viewing of reports on acquisition device, transfer of reports from device to viewing workstations, storage of objects in PACS archive and in a quality assurance tool (DICOM parsing database), reviewing report data in comparison to in-room displayed values or image DICOM field values.

Results: At installation, each acquisition device needed to be configured to create DICOM RDSR, and none allowed viewing. Our PACS archive would not display report, but was able to receive and store the RDSR. Retrieval of RDSRs to a workstation with a viewer was allowed. A DICOM receiver was configured to accept the reports, parse the parameters, and store information in a database.
Selected parameters from CT RDSRs include CTDIvol, DLP, and body part for irradiation events. RDSRs from angiographic suites include air kerma, kerma area product, as well as patient and C-arm geometry for each footswitch event.

Conclusions: Although the Radiation Dose Structured Report is not fully integrated between acquisition devices, viewing workstations, and image archives, a workflow can be developed to view and validate the RDSR. The RDSR is a valuable tool providing information needed for patient dosimetry.