

Profile compliance – clinical environment

QIBA PDF-MR Technical Committee

Profile clinical compliance

- Ability of a clinical site to acquire images of a patient as outlined in the QIBA profile
- Profile describes:
 - Patient management
 - Scanner validation
 - Scanner protocol
 - Image acquisition
 - Image quality assurance
 - Image postprocessing

Clinical compliance concepts

- Clinical compliance is not a new concept
- BUT QIBA profile defines 'quality of respective imaging procedure' quantitatively
- Therefore clinical compliance as known 'certification', 'accreditation', 'site qualification' from other parties like ACR, CQIE(NCI), EORTC, SNMMI, ESNM (EARL) can give guidance but need to be checked against QIBA profile.

Assessments of existing programs

- Scanner validation
 - Use of phantoms (which one)
 - Scanner protocol
 - Personnel qualification
 - Frequency of re-scans
 - Assessment of phantom scan quality how?
- Patient management outlined?
- Clinical scan
 - protocol
 - process;
 - Clinical scan quality assessment how?
- Which clinical sites are accredited?

US situation

- 3 organizations that can accredit 'advanced imaging facilities' per section 135(a) of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA)
 - American College of Radiology (ACR)
 - Intersocietal Accreditation Commission (IAC)
 - The Joint Commission (TJC)
- NCI has separate program Centers for Quantitative Imaging Excellence (CQIE)
- MR and CT services provided at hospitals are currently exempted from MIPPA accreditation requirements.

Information provided by E. Jackson, M.Rosen, J. Gimpel

ACR MR accreditation

- Theoretically for all imaging sites in the US? (Imaging facilities currently exempted from MIPPA)
- Phantom and clinical scan required
- CME of radiologists, technologists, physicists / MR scientists
- ACR MR accreditation phantom to be used
 - Saggital ACR T1
 - Axial ACR T1
 - Axial ACR PD/T2
 - Axial site T1
 - Axial site T2

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ACR MR accreditation

- Phantom scan quality assessment:
 - Geometric accuracy
 - Section thickness
 - High contrast spatial resolution
 - Low contrast object detectability – surrogate for SNR
 - Ghosting
 - Percent signal uniformity
 - Slice positioning accuracy

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IAC MR accreditation

- Theoretically for all imaging sites in the US?
(Imaging facilities currently exempted from MIPPA)
- No phantom scans required
- Clinical scan required

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TJC MR accreditation

- Theoretically for all imaging sites in the US? (Imaging facilities currently exempted from MIPPA)
- Unclear what requirements are

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CQIE MR accreditation

- CQIEs only (limited program – currently 4 years)
- Phantom scans required:
 - Subset of ACR (ACR sag T1, ACR axial T1, ACR axial T2 using same phantom as ACR)
 - T1 mapping and DCE scans acquired using the ACRIN DCE phantom
 - Volumetric (3D gradient echo) scan of ACR phantom
 - Annual phantom re-scans

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