



Dexa Automation into Powerscribe Reports: An Implementation Guide for Radiologists, PACS Administrators and Technicians

Florence Doo, MD, MA, Assistant Professor, Dept of Diagnostic Radiology & Nuclear Medicine, University of Maryland School of Medicine

Nathan Bumbarger, MD; Devina Chatterjee; Brandon Cofield; Olga Haan; Stephanie Jo, MD, PhD, CIIP

Background/Problem Being Solved

Osteoporosis-related fractures are a significant health concern, particularly hip fractures, which have high mortality rates in older adults. Dual-energy X-ray absorptiometry (DEXA) is the gold standard for diagnosing osteoporosis but requires manual transcription of data into radiology reports, increasing inefficiency and error risk. In the context of radiologist shortages, optimizing workflows is essential to reduce burnout and improve productivity.

Intervention(s)

A vendor-neutral structured reporting (SR) system was implemented using Hyland's PACSgear ModLink and Nuance PowerScribe 360. This system automated the transfer of DEXA data directly into radiology reports, eliminating manual transcription. Custom fields were created to map DEXA values to structured templates, allowing seamless integration into the radiology reporting process.

Barriers/Challenges

Setting up the SR system required approximately 10–15 hours of PACS administrator time over two months, including mapping fields and testing workflows. Radiologists needed to review and delete irrelevant fields in the templates. Minimal training was required for DEXA technologists to adapt to the new workflow, and technical challenges were addressed by support teams.

Outcome

Implementation of the SR system led to a significant reduction in report generation time, with radiologists experiencing a 2 to 5 fold improvement in efficiency. No significant errors were observed in mapped values. The process did not add measurable workload for technologists and was well integrated into existing workflows.

Conclusion/Statement of Impact/Lessons Learned

Automating DEXA data integration into radiology reports significantly improves efficiency, reduces transcription errors, and supports radiologists in managing increasing workloads. The setup process requires modest effort but offers meaningful return on investment for radiology practices. This approach has the potential to improve access to radiologists for patient care and provides a scalable solution for addressing inefficiencies in reporting workflows.

Figure(s)



Figure 1. Time difference (in seconds) before (blue) and after (orange) SR data intervention.

Edit DICOM Send Destination

DICOM Send Provider

AE Title:

Host Name or IP Address:

SCP Port:

Destination Name

Storage Commitment Provider

☐ Use Storage Commitment

Select Existing Provider:

Add New Provider

Enterprise Data Management

☐ Scan Archive Location

Query Retrieve Provider

Select Existing Provider:

Add New Provider

Send Parameters

Interpreting Physician

☐ Grayscale Only

☐ Presentation Files

☐ IVA Results File

☐ Unicode

DICOM Send Options

☐ Image

☒ Structured Report

☐ RDSR

OK Cancel

Figure 2. Structured Report and MODLINK data. Ensuring AE Title, Host Name or IP Address and Port data are entered correctly in order to edit DICOM send destination.

Keywords

Clinical Workflow & Productivity; Enterprise Imaging; Quality Improvement & Quality Assurance; Standards & Interoperability