CHAPTER 2
SECTION 3

DIGITAL IMAGING (SCANNED) AND ELECTRONIC (BORN-DIGITAL) RECORDS PROCESS AND FORMATS

1.0. GENERAL

1.1. The success of a *digitized document conversion* operation*, receipt or creation of electronic records in native formats, or output of data as electronic records,* depends *up*on a *strict* standardiz*ed* process. A standardized process *that is repeatable and consistently followed* will result in *authentic and reliable records. It also provides for* quality*, creation, capture, conversion in the case of scanning, output,* processing*, indexing,* storage*, search,* retrieval*, migration,* and reproduction o*f TRICARE Management Activity (TMA)* record*s.*

1.2. *All TMA contractors shall provide TMA with the following inactive records (for definition, see Chapter 2, Section 1, paragraph 4.15.) in either Tagged Imaged File Format (TIFF) or searchable Portable Document Format (PDF) files, with required metadata as defined by Chapter 2, Section 2, Records Series Subject and Description of Government Records (reference Chapter 2, Addendum B for format, metadata, and transfer requirements):*

- *TMA* Claims.

- Claim Supporting Documentation*,* including any documentation that either supports or denies payment of a clai*m.*

- Adjustment Records.

- Adjustment Supporting Documentation*,* including any documentation that either supports or denies payment of the adjustmen*t.*

- Checks.

- Explanation of Benefit *(EOB)* Forms and Summary Payment Vouchers (if not electronically generated).

2.0. STANDARDS

2.1. *Contractors shall adhere to the following National Institute of Standards and Technology (NIST) and Federal Information Processing Standards (FIPS):*

NIST:

- *186-3, Digital Signature Standard (DSS), June 9, 2009*
- *198-1, The Keyed-Hash Message Authentication Code (HMAC), July 2008*
- *185, Escrowed Encryption Standard (EES), February 9, 1994*
- *181, Automated Password Generator (APG), October 5, 1993*

FIPS:

- *Subject 180-4, Secure Hash Standard (SHS), March 2012 (Supersedes FIPS 180-3 as of March 2012)*

- *201-1, Personal Identity Verification for Federal Employees and Contractors, March 2006*

- *200, Minimum Security Requirements for Federal Information and Information Systems, March 2006*

- *199, Standards for Security Categorization of Federal Information and Information Systems, February 2004*

- *197, Advanced Encryption Standard (AES), November 26, 2001*

- *Date 140-2, Security Requirements for Cryptographic Modules, May 25, 2001 (Supersedes FIPS PUB 140-1, January 11, 1994)*

- *196, Entity Authentication Using Public Key Cryptography, February 18, 1997*

- *191, Guideline for the Analysis of Local Area Network Security, November 9, 1994*

- *190, Guideline for the Use of Advanced Authentication Technology Alternatives, September 28, 1994*

- *188, Standard Security Label for Information Transfer, September 6, 1994*

2.2. *TMA records that are imaged will follow current Association for Information and Image Management (AIIM) standards for imaging. All documents converted into digital format will be scanned into searchable PDF (at a minimum be 300 pixels per inch (ppi)/dots per inch (dpi)) or TIFF Group 6 or higher (for definition, see Chapter 2, Section 1, paragraph 4.14.) format. AIIM acts as the voice of the ECM industry in key standards organizations, with the media, and with government decision-makers. AIIM is an ANSI (American National Standards Institute) accredited standards development organization. AIIM also holds the Secretariat for the ISO (International Organization for Standardization) committee focused on Information Management Compliance issues, TC171.*

2.2.1. *Imaged copies of TMA records must be legible, reproducible and certified. Image capture and storage systems used by the contractor must reproduce legible copies from the storage medium. Should the contractor produce illegible copies of any record or set of records, the contractor shall recover and re-image the originals ensuring that the newly stored image is a legible, reproducible and certifiable document.*

2.2.2. The contractor shall provide an automated indexing system that can be used independently of the contractor's data system in the event of a transition. An automated indexing system **must not** be subject to proprietary hardware or software constraints. The automated indexing system shall be able to identify the retrieval location of the original claim and all related documentation, adjustment claims (including correspondence on which the decision to adjust was based) and all related supporting documentation.

EXAMPLE 1: If back-end filming *or imaging* is done, the back-end document number assigned shall be cross-referenced to the original claim number on the index.

EXAMPLE 2: If the *Internal Control Number (*ICN*)* assigned to the adjustment claim is different than the original claim number, the contractor shall cross-reference the adjustment claim ICN to the ICN of the original claim being adjusted on the index. The index shall be available for TMA on-site review.

2.3. *The following minimum requirements are applicable to digital images (scanned), electronic records (born-digital), and electronic data or records output in PDF format:*

2.3.1. *PDF File Specifications For All PDF Records*

2.3.1.1. *Searchable PDF records shall comply with PDF versions 1.0 through 1.4 (i.e., be compatible PDF file formats in existence on the approval date of this guidance), and meet conversion requirements as outlined below.*

2.3.1.2. *TMA shall periodically update the list of acceptable PDF versions provided in this guidance, as appropriate.*

2.3.1.3. *The automated indexing system requirements identified in TMA records that are imaged will follow the AIIM guidelines, and apply to all PDF records.*

2.3.2. *General Requirements For All PDF Records*

2.3.2.1. *Security Requirements*

2.3.2.1.1. *The media utilized to transfer records to the government shall be encrypted. However, PDF records shall not contain security settings (e.g., self-sign security, user passwords, and/or permissions) that prevent TMA or the National Archives and Records Administration (NARA) from opening, viewing, or printing the record.*

2.3.2.1.2. *All PDF records shall have all security settings deactivated (e.g., encryption, master passwords, and/or permissions) prior to transfer to TMA, NARA, or for transit reasons. Deactivating security settings from PDFs ensures TMA has the ability to support long term migration and preservation efforts, especially records affected by legal holds. The electronic media device containing PDF records with PII/PHI for transfer should be encrypted using TMA approved (Department of Defense (DoD) compliant) encryption software: FIPS 140-2. TMA recommends using TMA approved (DoD compliant) encryption software and following paragraph 2.1. Reference Chapter 2, Addendum B for transferring and shipping electronic records securely.*

2.3.2.2. *Review Of Special Features*

Complexities associated with certain PDF features that may be a requirement for contractors shall require pre-authorization from the TMA Records Management Officer prior to enabling any special feature. Examples of special features, include but are not limited to: digital signatures; links to other documents, files or sites; embedded files (including multimedia objects); form data; comments and/or annotations.

2.3.3.   Requirements For Scanned Paper or Image Formats Converted To PDF

2.3.3.1.   Minimum Image Specifications

Textual paper records (hard copy) converted into a PDF shall adhere to the requirements identified with the paragraphs above. Contractors with digitized (scanned) PDF records not converted in accordance with the minimum image quality specifications standards shall contact the TMA Records Management Officer for further guidance.

2.3.3.2.   Optical Character Recognition (OCR)

PDF records can contain embedded searchable text based on OCR. TMA recognizes uncorrected OCR'd text can assist with full text search capabilities; thus, contractors shall be permitted to provide TMA with PDF records that have been OCR'd using processes that do not alter the original bit-mapped image. An example of an output process that accomplishes this requirement is Searchable Image-Exact. Searchable PDF files output as Formatted Text and Graphics, PDF Normal, or Searchable Image-Compact will not be accepted for scanned paper or image formats.

2.3.4.   Requirements For Digital To Digital Conversion

Records Converted to searchable PDF from their native electronic formats (e.g., office automation products) and electronic data output (e.g. electronic information systems) to searchable PDF files

2.3.4.1.   Embedded Fonts

Electronic records that have been converted to searchable PDF files from their native electronic formats must include embedded fonts to guarantee the visual reproduction of all text as created. All fonts embedded in searchable PDF files must be publicly identified as legally embeddable (i.e., font license permits embedding) in a file for unlimited, universal viewing, and printing.

2.3.4.2.   Font Referencing

2.3.4.2.1.   PDF records that reference fonts other than the "base 14 fonts" must have those fonts referenced in the record (i.e., as a minimum, subsets of all referenced fonts) embedded within the PDF file.

2.3.4.2.2.   PDF records must have all fonts referenced in the record, including the "base 14 fonts," embedded within the PDF file. This requirement is met by having, as a minimum, subsets of all referenced fonts embedded within the PDF file.

2.3.5.   Data Output From Electronic Information Systems

Data output from electronic information systems such as TMA records shall be in the format of searchable PDF files. Because the source information is structured or unstructured data, no OCR process is needed. When performing a digital to digital conversion from native formats or data using normal methods (not employing screen scrapes, special tools, etc.) the output will yield a 100% exact searchable PDF file although, technically, it is called a "Formatted Text and Graphics" PDF.

Electronic records created from data and native format conversions (digital to digital) shall be accepted by TMA, as a PDF formatted text and graphics format.

3.0. *METADATA*

3.1. *Metadata is a critical element of TMA records in electronic format. All TMA electronic records require mandatory metadata to be associated or linked to them throughout their active and inactive life cycle. Metadata enables TMA to meet the federally mandated life cycle and recordkeeping requirements while ensuring eRecords remain accessible and searchable to TMA business owners and authorized users. There are several different layers of metadata associated with electronic records as they move through their life cycle from active to inactive, then are transferred to the designated NARA Federal Records Center (FRC), reference Chapter 2, Addendum B.*

3.2. *Metadata can be captured or generated throughout or as part of the business process. For specific metadata requirements reference Chapter 2, Section 2. For example, document and record series metadata for a TMA Contractor Claims Records, Record Series 911-01, may include but is not limited to the following metadata:*

- *Date*
- *DoD Benefits Number (DBN)*
- *National Provider Identifier (NPI)*
- *Defense Enrollment Eligibility Reporting System (DEERS) Family Identfciation Number*
- *DoD Identification Number*
- *Beneficiary Identification Number*
- *Subject*
- *Sponsor Name*
- *Status*
- *Sponsor Social Security Number (SSN)*
- *TMA Claim Number*
- *Begin Date of Service*
- *End Date of Service*
- *Provider Name*
- *Provider Taxpayer Identification Number (TIN)*
- *Index*

4.0. **PROCEDURES**

The contractor shall develop and follow a system for *imaging* two-sided documentation *and output to electronic formats required by TMA* to include written procedures for Government inspection detailing the entire process. Documentation, at a minimum, must include the following:

4.1. *Planning for further technological developments.*

4.2. *Providing for the ongoing functionality of system components.*

4.3. *Assuring the imaging system and electronic information systems have inherent flexibility and a non-proprietary design that accepts future hardware and software upgrades.*

4.4.   Monitoring and limiting the deterioration of *optical media and digital data disk storage*.

4.5.   Document *p*reparation.

4.6.   *Imaging/Conversion* Operations (flowchart or other graphical depiction of the *imaging* process from start to finish).

4.7.   Indexing, Retrieval, and Cross-Referencing (method of indexing all portions of the claim*;* i.e., mother claim, adjustments, related correspondence, any documentation that substantiates the settlement of the claim, explanation of benefits, check number, etc.). Ensuring that claims retrieval software is Structured Query Language (SQL) compliant.

4.8.   Quality Control (must ensure 100% accuracy of readability of all *imaged* documents, how each original will be *imaged*, what will occur if errors are made, equipment failures, skewed margins, loss of data, etc.) *as well as comparable quality control process and procedures for data output as electronic records in PDF format*.

4.9.   Disaster Recovery (shall be in place to ensure 100% recovery capability, how *content and media* will be protected, the protection of the vital records, and the location of the duplicate copies of the *images, indexes, and PDF records*).

4.10.   Disposition of Original Records (how, when, where will the original documents be destroyed in accordance with *applicable laws and regulations; i.e., TMA Records Retention Schedule (RRS), the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and* the Privacy Act *of 1974*).

4.11.   *Documentation of Imaging and Output Storage Requirements.*

5.0.   **TRANSITION**

5.1.   Maintain a complete set of documentation to be turned over to an incoming contractor *and the NARA electronic Federal Records Center (eFRC) as designated by TMA*, in the event of a transition.

5.2.   *Upon direction from TMA, the incumbent shall also be prepared to present the incoming contractor with standard TIFF claim images, searchable PDF files, and a non-proprietary program to sort and retrieve these TMA records by ICN. This program or programs shall be compatible with a current Microsoft® Desktop Operating System. Valid alternatives shall be submitted to TMA for review and consideration.*

5.3.   *Once the transition of records and materials has been accomplished, outgoing contractors are responsible for destroying all copies to include backup data in accordance with 36 CFR Part 1226, "Implementing Disposition" after full transition and acceptance of transition materials and information has been completed. Contractors are not authorized to dispose or destroy any copies or backup data prior to formal, written notification from the TMA Contracting Office or TMA Records Management Office. A formal record of destruction or certificate must be provided to the TMA Contracting Office documenting what was destroyed, the date(s) destroyed and by whom. This certificate of destruction will be provided to the TMA Records Management Officer.*

5.4. *Reference Chapter 2, Section 3, paragraph 3.0., for additional guidance on records disposal, storage, and transfer.*

6.0. **LEGAL ADMISSABILITY**

6.1. The contractor shall be familiar with how the rules of evidence apply to *f*ederal records, and ensure that procedural controls that protect their integrity are in place and adhered to *for the life cycle management of all Government records*.

6.2. *The contractor shall implement current industry standards from paragraph 2.1., using digital-imaging processes, proven technologies, and optical media for the conversion of paper documents to digital form, their initial creation in digital form, or digital to digital conversion.*