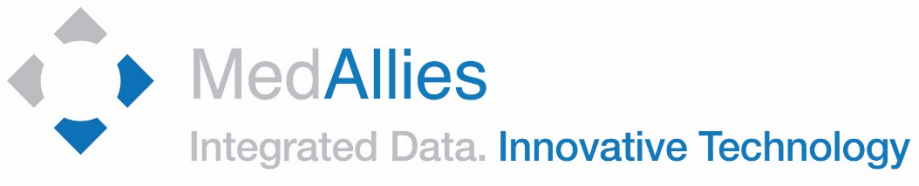

MedAllies Real World Testing Plan

Version 1.0
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1. Overview and Approach

Real World Testing is an ONC requirement that will allow MedAllies to demonstrate interoperability of our certified health IT product. The interoperability and testing processes will encompass real world settings and scenarios and leverage the MedAllies Interoperability Lab. The Real-World Testing Plan will verify that MedAllies performs and captures metrics from the interoperability data exchange.

MedAllies' approach to Real World Testing will incorporate the MedAllies post-production Interoperability Testing Lab. MedAllies has over 20 Partner EHR's connected in the Interoperability Lab. MedAllies requires these Partner EHRs to maintain and persist a post-production test environment as well. Each Vendor has the capability to generate meaningful test data from their Test EHR system for interoperability purposes

MedAllies maintains relationships with over 30 EHR Vendor systems within the Interoperability Lab. Because of this, MedAllies can conduct end-to-end production-like interoperability testing.

MedAllies' Interoperability Lab supports delivering test patient information and clinical documents from the sending Vendor system to the receiving Vendor system in post-production test environments. MedAllies also ensures that all data received is rendered and usable within the recipient's Vendor system.

For Real World Testing Requirements, MedAllies plans to leverage the capabilities of the Interoperability Lab to perform ongoing end-to-end interoperability tests involving test patient and other relevant clinical data. MedAllies will collect testing metrics related to Direct Project, Edge Protocols, and XDR/XDM specifications.

MedAllies certifies that the software platform operated in the Real World Testing is identical code base as the Production HISP Platform. The data being used during RWT is test data and contains no PHI.

2. Acronyms Used in Document

Acronym	Description
RWT	Real World Testing
EHR	Electronic Health Record
ONC	Office of the National Coordinator
XDR	Extended Detection and Response -
XDM	Extensible Markup Language – Data management
XML	Extensible Markup Language
DSN	Disposition Status Notification
MDN	Message Disposition Notification
TOC	Transition of Care

3. Testing Methodologies

3.1. Interoperability Lab Testing

MedAllies will deliver Transition of Care documents to and from five Vender Partner EHR systems, defining the top 10 of each semantic domain and asking that they both create and send, as well as provide visual artifacts as to the import plus reconciliation and incorporation of those items within the domain.

4. Care Settings

4.1. Transition of Care – Clinical Document Exchange, Rendering and Incorporation

MedAllies will work with Partner EHR Vendor systems to test Direct Project specification (Direct message transport), processed and dispatched MDN creation, send, and receipt, XDR to XDM conversion, and XDM to XDR conversion. MedAllies is certified to ONC §170.315(h)(2), which encompasses the certification criteria above.

MedAllies will engage EHR vendors that can support Ambulatory, Acute, ED, and Behavioral Health solutions. We will not be demonstrating Dental, SNF, Payers in this testing unless an opportunity to do so arises.

5. Expected Outcomes

A description of the expected outcomes of Real-World Testing.

5.1. HISP Verification of Direct Exchange

1. The TOC clinical document(s) will originate in a Vendor Partner system
    - Direct address with valid certificate will be used
        - Certificate discovery will be demonstrated for all involved vendor Partner EMR Direct addresses
2. The TOC clinical document(s) will flow to the MedAllies HISP via XDR
3. MedAllies HISP will package the .XML TOC clinical document(s) in an XDM.zip package
4. MedAllies HISP will deliver the TOC clinical document(s) to the intended recipient Vendor system
5. Receiving Vendor HISP/EHR system will receive/import TOC clinical document(s) and generate processed and dispatched MDNs and route the MDNs back to the original sender
6. Sending HISP confirm MDNs are delivered back to original sender
7. Problems -- top 10, with expectations of ICD-10 encoding, status, and dates of creation/update/occurrence
8. Medications -- top 10 with expectations of cardinality of API (Asthma Albuterol in Inhaler, Syrup, and Pill form simultaneously), PRN, DAW, Tapering, Refills, status (Active, Discontinued, Cancelled, Entered in Error) code set equaling RX Norm, and dates
9. Medication Allergies -- top 5 medications allergies and top 3 Medication allergy classes to include: Date of allergy or entry, Category (Adverse Reaction, Allergy, Intolerance, Adverse Event), Code system (RxNorm for Med Allergies or SNOMED-CT for med Allergy Class), Severity to the Allergy and Severity to the reaction, Reaction, including encoding (SNOMED-CT)
10. Unstructured CCDAs will be exchanged between the EHRs with all available MIME types attached (PDF, GIF, XLS, CDF, RTF, TXT)
11. One sample of each of the 8 document types: Transition of Care, History and Physical, Referral, Referral Response, Discharge Summary, Consultation Notes, Operative Note, Procedure Note, Unstructured Document

5.2. Failure Demonstration

1. Perform TOC send to non-existent Direct address
    - Sending Partner EHR system will send to a non-existent or invalidated Direct address
        - MedAllies HISP logs will prove message is undeliverable and DSN is delivered back sending Vendor system

2. Perform TOC send to untrusted HISP
    - Sending HISP (MedAllies) to invalidate trust anchor for receiving HISP and perform a TOC send to the untrusted HISP
        - MedAllies HISP logs will prove message is undeliverable and DSN is delivered back sending Vendor system
3. Perform TOC send to Direct address with unpublished certificate
    - Sending Partner EHR system will send to a Direct address without a published certificate
        - MedAllies HISP logs will prove message is undeliverable and DSN is delivered back sending Vendor system
4. Perform TOC send to Direct address with no Processed MDN returned
    - Sending Partner EHR will send to a Direct address that is designed to not return MDN's
        - MedAllies HISP logs will prove message is undeliverable and DSN is delivered back sending Vendor system

6. Metrics

Metrics during testing period will be kept and provided to ONC once the testing period concludes.

6.1. Documentation of EHR Semantic Interoperability

a. Log examples of messages sent and received will be maintained
b. Log examples of MDN sent and received will be maintained
c. Tracking of XDR/XDM conversion via testing group communication
    i. MedAllies Mail Test account for copies of XDM.zip payload(s) can prove XDR to XDM conversion
d. Incorporation and Reconciliation capabilities will be tracked with the Vendor Partner's assistance
e. Log examples of undeliverable messages will be maintained
f. Log examples of DSN's returned to sending Partner Vendor systems will be maintained