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Community Care Documentation Evaluation Criteria and Process: Participant Guide

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| LAST UPDATED: JANUARY 18, 2024 |

DEPARTMENT OF VETERANS AFFAIRS

**2024**

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# **Overview**

The overall structure of the Community Care Documentation evaluation will include three phases, also referred to as gates. Each gate (or phase) will be subjected to distinct evaluation criteria.

## **Expected Solution Details**

**Process for operationalizing products on Veterans Affairs (VA) equipment:** There are two options for deploying solutions to VA for this Artificial Intelligence (AI) Tech Sprint.

### **Option 1:**

* Local client installed software can capture audio from Government furnished equipment (GFE) or hardware and encrypt data.
* Solutions that require additional services using external connections must have their connections approved and tested prior to testing; or must use the AI Tech Sprint provided storage (Amazon Web Services (AWS S3)) to transfer files.
* Output data is returned to the local client interface.
  + This could leverage the AI Tech Sprint Application Programming Interface (API) or be handled entirely through their client.
  + Check the ‘Expected data output from solutions’ section for the data format and requirements.
* A contestant must provide their external Internet Protocol (IP) address(s) and port numbers required for the user to connect to the user interface and for the data connections to occur **within one week of being approved** to participate in the AI Tech Sprint.

### **Option 2:**

* For the Federal Risk and Authorization Management Program (FedRAMP) or Veterans Affairs Enterprise Cloud (VAEC) solutions, the testing hardware (e.g., laptop or phone GFE) must have access to the application and the solution must be able to use the client audiovisual devices or have any vendor required devices reviewed and installed prior to testing.
* The vendor will writeback files to the S3 bucket API. For FedRAMP or VAEC solutions, the testing hardware must have access to the cloud hosted application.
  + The solution will output files, including progress notes in a JSON or HL7 file, to the AI Tech Sprint inbound external storage using credentials provided to the contestant. Check the ‘Expected data output from solutions’ section for the data format and requirements.
* A contestant must provide their external IP address(s) and port numbers required for the user to connect to the user interface and for the data connections to **occur within one week of being approved** to participate in the Tech Sprint.

**Note:** VA Personally identifiable information (PII) regulations prohibit the use of common names in any documents or data distributed as anonymized. Therefore, names are represented by English words that are not associated with any common names, such as “Customer, One.”

# **Phase Details and Evaluation Components**

## **Gate 1 Details**

Evaluation goal:

* A Pass/Fail status is determined for basic functionality. If a contestant passes, the contestant will move onto Gate 2.

Deliverables from contestant:

* A solution provided that can run on or be accessed by VA GFE and generates expected output data.
* Responses to the Information Technology (IT) Evaluation Criteria.

Deliverables from VA team:

* VA provides a report on the performance across components for each contestant, determining their overall Pass/Fail status.

Evaluation Components:

* Basic Quality checks: These standard checks assess whether the solution can run in a VA environment and generate expected output. Basic checks may also assess:
  + Whether the solution is compatible with minimum VA GFE requirements,
  + Exhibits satisfactory behavior during shutdown, connectivity loss, or temporary interruptions, etc.,
  + Demonstrates software stability,
  + Generates the correct data format in its output,
  + Has a reasonable response time, ensuring it is below the threshold (120 seconds).
* Acceptable IT performance/requirements: The contestant answers the IT questionnaire.
  + Responses are reviewed and a determination of a Pass/Fail status is given.

Process:

* A contestant provides a solution to be installed and/or provides external connection requirements for VA GFE with instructions for use.
* VA conducts a Gate 1 evaluation:
  + Basic Quality checks:
    - VA attempts to operationalize the solution with the instructions provided by the contestant.
    - Contestants are granted an opportunity to fix installation issues during office hours or by appointment. Please note, only one remediation appointment will be granted for each contestant.
* Acceptable IT performance/requirements: The contestant answers the IT questionnaire.
  + Responses are reviewed and a determination of a Pass/Fail status is issued.
  + VA generates a performance report and issues a Pass/Fail determination.
    - A contestant must pass both checks.
  + VA notifies each contestant of their results and if the contestant will move onto Gate 2.

## **Gate 2 Details**

Evaluation goal:

* The goal is to generate numeric score to rank contestants for selection. This gate helps identify which contestants will move onto Gate 3.

Deliverables from contestant:

* A solution with instructions provided that can be used on VA GFE. Please note, in this gate, there will not be an opportunity offered to troubleshoot installation, as provided in Gate 1.
* Responses to the Trustworthy AI Questionnaire.

Deliverables from VA team:

* VA provides a report on performance or evaluation criteria.
* Selection into Gate 3.

Evaluation Components:

* Trustworthy AI Scoring Manual
* Structured Data Review
  + The correct detection of medical entities and related values are compared to manually reviewed and validated controls.
  + The potential for harm for incorrect detection of medical entities and related values are compared to manually reviewed and validated controls.
* Clinician Review
  + A clinician will review the summary notes and linked table of contents for coherence, factual consistency, comprehensiveness, and harmfulness.

Process:

* + A contestant provides solution to be used on VA GFE with instructions for use or installation (or directs VA to use the solution provided in Gate 1).
  + VA deploys or uses the solution and runs data through the software, obtaining file outputs.
  + VA performs a structured data review evaluation on the data outputs in a rolling fashion as outputs become available.
  + VA performs a clinician review evaluation on the generated notes as outputs become available.
  + VA combines all evaluation components into a single composite score or report.
  + Based on the scores, VA selects contestants who move onto Gate 3.

## **Gate 3 Details**

Evaluation goal:

* The goal of Gate 3 is to generate a numeric score to rank contestants for placement.

Deliverables from contestant:

* A solution provided that can used on VA GFE.
* A recorded presentation or demonstration of software (maximum of 10 minutes in duration) and supporting materials.
  + This presentation or demonstration will use data from Gate 2.

Deliverables from VA team

* VA provides a report on performance or evaluation criteria.

Evaluation Components:

* Structured Data Review
  + The correct detection of medical entities and related values are compared to manually reviewed and validated controls.
  + The potential for harm for the incorrect detection of medical entities and related values are compared to manually reviewed and validated controls.
* Clinician Review
* A clinician reviews the summary notes and linked table of contents for coherence, factual consistency, comprehensiveness, and harmfulness.
* Qualitative evaluation of presentation
  + Purposeful: Clarity and specificity of benefits are tailored to clinicians or end users.
  + Effective and Safe: A presentation shows the solution has demonstrated proper handling of unexpected scenarios; maintaining safety and effectiveness.
  + Secure and Private: Techniques for data protection and confidentiality are evaluated.
  + Integration: Current workflow optimization, data and system integration capabilities, and future planned capabilities are assessed.

Process:

* A contestant provides a solution to be used on VA GFE with instructions for use or installation.
  + The solution does not have to be an entirely new product but can be an updated product.
* VA deploys or uses the solution and runs data through the software, obtaining file outputs.
* The contestant provides a recorded presentation demonstrating their product.
* VA performs a structured data review evaluation on the data outputs.
* VA performs a clinician review evaluation on the generated notes.
* VA performs a qualitative evaluation on the recorded presentation.
* VA combines all evaluation components into a single composite score or report.
* VA selects the final rankings based on the composite score.

## **Award Ceremony**

* Teams from Phase 3 will present a demonstration of their solutions.
* The 1st, 2nd, and 3rd place winners will be announced.
* The Ceremony will be held in May. The location of the ceremony is still pending.

# **Expected Data Output From Solutions**

**The solution should return:**

1. A summary of the documentation must be returned in a VA standard compliant file (i.e., JSON or HL7). This summary should include a hyperlinked table of contents, with internal hyperlinks to the source of truth within the document for each of these.
2. Each solution response should identify a discrete list of medical concepts and related values present in the source data file using Unified Medical Language System (UMLS) concepts. High performing solutions will identify medical concepts and related values and return them in a JSON or HL7 format.
3. The file name of the document provided by VA will contain the document ID and that ID must be returned in “Data for VistA” field 1 in JSON or “Unique Document Number” in TXA Seq 12 in HL7 (see [VistA CPRS TIU Generic HL7 Interface Handbook](https://www.va.gov/vdl/documents/Clinical/CPRS-Text_Integration_Utility_(TIU)/tiuhl7.pdf)).

## **Expected Data VA will Present to the Solution**

The solution will be presented with a selection of patient documentation that includes administrative, clinical, and fiscal documents in a PDF or TIFF format. The documents may contain text, tables, graphs, figures, images, or watermarks.

# **Appendix**

## 

**AI:** Artificial Intelligence

**API:** Application Programming Interface

**AWS:** Amazon Web Services

**FedRAMP:** Federal Risk and Authorization Management Program

**GFE:** Government Furnished Equipment

**IP:** Internet Protocol

**IT:** Information Technology

**NAII:** National Artificial Intelligence Institute

**PII:** Personally Identifiable Information

**UMLS:** Unified Medical Language System

**VA:** U.S Department of Veterans Affairs

**VAEC:** Veterans Affairs Enterprise Cloud

**VAIU:** Veterans Affairs Innovation Unit

## **Progress Note and Data File Examples**

**Inbound JSON Message Format Examples:**

**\*\*Document ID must be inserted in the “Data for VistA” field 1 value highlighted below\*\***

{

"applicationName":"{APPLICATION\_NAME}",

"transactionType":"{APPLICATION\_NAME-TRANSACTION\_TYPE}",

"transactionId":"1",

"stationNumber":"999",

"timestamp":"2022-02-23T00:01:59-0500",

"version":"V1.1",

"patient":{

"ien":"4356",

"lastName":"JSON",

"middleName":"Format",

"firstName":"Message",

"gender":"Male",

"last4SSN":"5555",

"dateOfBirth":"1900-01-01",

"[email":"zzz@zzzgmail.com](mailto:email)",

"phoneNumber":"5551234567",

"clinician":{

"ien":"000001",

"loginId":"oitchazzzzz"

}

},

"dataForVista":"{ /"field1/":/""value/"", /"field2/":/""value/"", /"field3/":/""value/"" }",

"attachments":[

{

"s3Location":"{bucket within Arches}/{applicationName}/attachments/{stationNumber}-{filename}",

"attachmentDestination":"{targetApplicationName}"

}

]

}

**Inbound HL7 Message Interface ControlDocumentation:**

<https://www.va.gov/vdl/documents/Clinical/CPRS-Text_Integration_Utility_(TIU)/tiuhl7.pdf>

