

**Nigeria**

**National Data Repository:**

Implementation Guide

Version 1.4

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**Version History**

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List of Abbreviations

NDR – National Data Repository

EMR – Electronic Medical Record

XML – Extensible Markup Language

XSD – XML Schema Definition

IP - Implementing Partner

ART – Anti-Retroviral Therapy

PMTCT – Prevention of mother-to-child transmission

TB – Tuberculosis

API – Application Programming Interface

# Overview



The purpose of this documents is to provide a developer guide that explains key elements of the information standard, supporting efficient development and verification of standardized individual-level messages.

**It is important to note that this document will be continually updated based on new releases of the National Data Repository (NDR) Schema and based on feedback from Facilities and Implementing Partners during onboarding to the NDR.**

Documents and artifacts that extend and support the NDR Implementation Guide include:

1. **NDR Schema**: The NDR Schema is implemented as an XML Schema Definition (XSD) and governs the encoding, structure, and content for sending patient centric, Extensible Markup Language (XML) messages to the NDR
2. **Schema Change Log**: The Change Log captures all changes the NDR Schema across releases
3. **NDR Data Dictionary Workbook**: Captures all value set and codes defined for data elements, traces data elements from the NDR Schema to the Repository database and visualizes the physical data models for NDR databases.
4. **NDR Data Dictionary**: User guide that describes the information included in the NDR and how it is organized
5. **Validation Worksheet**:

Questions and feedback on the NDR Implementation Guide should be directed to

ndr\_support@mgic-nigeria.org

# Information Exchange

The figure belowdemonstrates the Information Architecture for the NDR focusing on the movement of data across the platform supported by multiple information standards. This section further defines the overall technical implementation of the NDR Information Exchange.



## Reporting Triggers

Reporting triggers document the healthcare events that should result in a message being transmitted to the NDR.

The table below defines which diseases are currently reportable to the NDR and the trigger events for when disease reports should be sent to the NDR. The benefit of defining what diseases are reportable to the NDR along with triggering events for each condition is to ensure consistency of reporting across Facilities and Implementing Partners.

**It is important to note that as access to additional Program Areas within the Nigeria Federal Ministry of Health is obtained, the list of reportable diseases and reporting triggers will be extended.**

**Additionally, it is important to note that once a NDR reporting trigger has been engaged, data for the Patient’s disease should be continually reported to NDR as an update.**

**For each time a facility wants to report data to the NDR, the EMR should be checked for all clients who meet any one of the listed trigger events and ONLY such clients’ records should be sent to the NDR.**

|  |  |  |
| --- | --- | --- |
|  | **Event** | **Action** |
| 1.1 | Documented HIV test result in the EMR | Send an initial message for the client |
| 1.2 | Client Enrolled into HIV care and treatment program | Send an Initial message with all historic data for the client |
| 1.3 | Client Transferred in and this is documented in the EMR | Send an Initial message with all historic data for the client |
| 1.4 | Client has a follow-up visit documented in the EMR | Send an Update message for this client with updated data for the client |
| 1.5 | Client’s record on the EMR was updated | Send an Update message for this client with updated data for the client |
| 1.6 | Client record deleted on the EMR | Send a Redacted message for this client |
| 1.7 | Client transferred out | Send an Update message for this client with updated data for the client |
| 1.8 | Client documented as died | Send an Update message for this client with updated data for the client |
| 1.9 | Client documented as stopped after tracking | Send an Update message for this client with updated data for the client |
| 1.10 | Client documented as LTFU after tracking | Send an Update message for this client with updated data for the client |

## File Transport

Data transport is achieved to the NDR website over HTTPS using username, password authentication.

## File Compression

To address file size and movement of data across networks and facilities, Implementing Partners should compress multiple XML files into a zip folder. Compressed files should NOT be encrypted using a password and compressed XML messages should be in the root of the archive file (i.e., do not use sub folders). Typical XML file sizes are within 1KB to 20KB per patient. The current limit for compressed ZIP files is 500MB.

## Message Naming Convention

The table below defines the naming convention for the individual messages being sent to NDR by facilities and Implementing Partners. Each part of the file name should be separated by an underscore (“\_”) and use an .XML file extension. For example:

* 05151\_39383933\_15072015\_221510.xml
* 10209\_ 30003961\_13062015\_082909.xml
* 09216\_ 30003961\_13062015\_082909.xml

|  | File Name Part | Notes |
| --- | --- | --- |
| 1 | State and LGA code for the facility | Use the NDR data dictionary to get the State and LGA codes for the facility and concatenate to form this field. Two-digit State Code then Three-digit LGA Code |
| 2 | Identifier assigned by FMoH to uniquely identify Facility |  |
| 3 | Patient Identifier |  |
| 4 | Date (DDMMYYYY) |  |

If a compressed archive file is transmitted, the file should follow the convention defined in the table below and use a .ZIP file extension. For example:

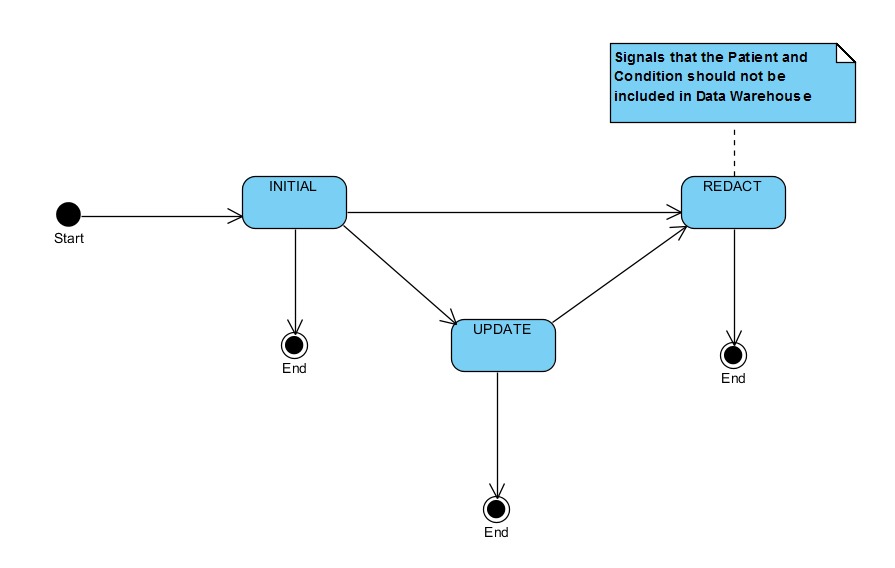
* 09216\_15072015\_221510.zip

|  | File Name Part | Notes |
| --- | --- | --- |
| 1 | State and LGA code for the facility | Use the NDR data dictionary to get the State and LGA codes for the facility and concatenate to form this field. Two-digit State Code then Three-digit LGA Code |
| 2 | Identifier assigned by FMoH to uniquely identify Facility |  |
| 3 | Date (DDMMYYYY) |  |
| 4 | Time based on 24 hour clock (HHMMSS) | Using West Africa Time (WAT) |

## Message State

The figure below specifies the sequence of events that an object goes through during its lifetime in the NDR. In the context of the NDR, definition of state allows additional data to be added for a Patient’s Condition and enables facilities or Implementing Partners to communicate when a Patient, Condition, or Public Health event was incorrectly or erroneously entered into the EMR and subsequently reported to the NDR.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | State | Description | What to Include | Triggers |
|  | Initial | When sending new records that do not exists in the NDR | All existing and historic client record |  |
|  | Update | When sending an update to an existing record in the NDR | Send only data elements that have changed using timestamps from the update encounter table |  |
|  | Redact | When deleting an existing record from the NDR |  |  |



## Important Identifiers

The table below identifies the key identifiers that are used by the NDR.

|  | Identifier | Schema Element | Implementation Approach |
| --- | --- | --- | --- |
| 1 | Message Unique Identifier | MessageUniqueID | A unique value assigned to the NDR message. |
| 2 | Message Schema Version Number | MessageSchemaVersion | This number indicates which version of the XSD was used in generating the XML message. This number is important as it determines what data elements are expected and may determine what validation rules are applied during ingestion |
| 3 | Patient Identifier | PatientIdentifier | Represents how the Patient is uniquely identified within the EMR. This may take the form of a unique value assigned by the EMR or a unique value generated when the Patient is created in the EMR.  It is critical that this value be unique for a Patient in the context of a facility’s EMR. |
| 4 | Message Sending Organization | MessageSendingOrganization | The organization that is responsible for the facility. This may be an Implementing Partner, the facility itself, or another organization such as the FMoH. |
| 5 | Treatment Facility | TreatmentFacility | The facility where the Patient is receiving treatment.  The NDR Team recognizes that a standardized list of all facilities is not readily available. Therefore, trading partners should use a consistent value to represent a facility. |
| 6 | Visit Identifier | VisitID | A unique value that represents a Patient’s visit in the context of a Patient’s chart. |

## Record Matching

When NDR receives a message into the Transactional database it will check if existing records exist for specific subject areas in NDR using the business logic defined in the table below. If a record match is detected, the record will be updated.

|  | Subject Area | Record Matching Approach |
| --- | --- | --- |
| 1 | Patient | When the following are equal, a Patient is considered a match:   * Treatment Facility * Patient Identifier |
| 2 | Patient Condition | When the following are equal, a Patient is considered a match:   * Patient Identifier * Condition Code |
| 3 | Patient Address | If a Patient Address is associated to a Patient, the existing Patient Address will be updated. Otherwise, an address will be inserted. |
| 4 | Treatment Facility | When the following are equal, a Treatment Facility is considered a match:   * Facility Name * Facility Identifier * Facility Type Code |
| 5 | Sending Organization | When the following are equal, a Sending Organization is considered a match:   * Facility Name * Facility Identifier * Facility Type Code |
| 6 | Diagnosis Facility | When the following are equal, a Diagnosis Facility is considered a match:   * Facility Name * Facility Identifier * Facility Type Code |
| 7 | Encounter | When the following are equal, an Encounter is considered a match:   * Visit ID * Visit Date |
| 8 | Regimen | When the following are equal, a Regimen is considered a match:   * Visit ID * Visit Date * Prescribed Regimen Type Code |
| 9 | Laboratory Report | When the following are equal, a Laboratory Report & Order / Result combination are considered a match:   * Visit ID * Visit Date * Laboratory Resulted Test Code |
| 10 | HIV Testing Report | * When the following are equal, a HIV Testing Report combination are considered a matchClient Code * Treatment Facility |

## 2.7.1 Changing Patient ID

**It is important to note that a Patient’s ID already submitted to the NDR should remain the same through the life cycle of that patient’s record in the NDR for consistent matching and updating of the records. Implementers should therefore understand that changing a patient ID in the EMR without adequate notification to the NDR will mean creating duplicate records on the NDR with same clinical, encounter, regimen and lab details but different Identifier.**

In the event of a changed patient identifier, the facility would supply the new patient identifier in the Patient Identifier tag and two new data elements, “**PatientIdentifierChanged**” True or False and “Old Patient Identifier” in the Identifier change sub-tag of patient demographics. If the **PatientIdentifierChage** is True, then it is expected that the Old patient identifier is supplied in the tag.

When the NDR reads an XML file, it checks the existence of data in the Identifier change tag. If present, it identifies a change in patient identifier has occurred for this patient thus it changes the existing patient identifier in the database that corresponds to the Identifier in the **OldPatientIdentifier** tag. The old patient identifier is then saved in the patient table of the database

## 2.7.2 Patient Biometric Information

Included in XSD 1.3 and higher is the fingerprint tag in Patient Demographics. The data expected for the fingerprint tag is listed below;

1. FingerPosition - (RightThumb, RightIndex, RightMiddle, RightWedding, RightSmall, LeftThumb, LeftIndex, LeftMiddle,LeftWedding, LeftSmall)
2. Template – (the encoded patient fingerprint data)
3. Date captured
4. Source – This is used to validate the source of the fingerprint data, it can either be N, M or UNK.

It is important to note that once data is supplied for fingerprint, the template and fingerprint position are required. The NDR requires a minimum of six fingers and a maximum of ten for all fingerprint data supplied in the above-mentioned position. The fingerprint is expected to be unique for every patient, and this will be used for patient de-duplication on the NDR

## Documented Transfers for HIV

**It is important to note that the process for communicating documented transfers for HIV (and non-HIV) patients will evolve in future phases of NDR based on feedback from Implementing Partners and parallel efforts by the United State Government Strategic Information Team to develop Patient matching and deduplication algorithms.**

This section describes the process for communicating documented transfer to the NDR for HIV. A documented transfer is defined as:

1. Patient transfers from Treatment Facility A to Treatment Facility B
2. Treatment Facility A indicates that the Patient has transferred out
3. If available, Treatment Facility A indicates the name of the Treatment Facility where the Patient is transferring to
4. Treatment Facility B records that the Patient transferred in from Treatment Facility A along with the Unique Patient Identifier used by Treatment Facility A if available

Within the NDR Schema, Treatment Facility A would answer the following data elements within the HIVQuestionsType to indicate the Transfer out:

1. PatientTransferredOut = Set to true to indicate a transfer out
2. TransferredOutStatus = Set to the patient’s ART status at time of transfer out
3. TransferredOutDate = Date of the transfer out
4. FacilityReferredTo = Treatment Facility information for the new Facility including Facility Name and Identifier

Within the NDR Schema, Treatment Facility B would answer the following data elements within the HIVQuestionsType to indicate the Transfer in:

1. TransferredInDate= Date the patient was transferred in
2. TransferredInFrom= Treatment Facility information for the previous Treatment Facility including Facility Name and Identifier
3. TransferredInFromPatId= Unique Patient Identifier used by previous Treatment Facility

When the NDR message is received from Treatment Facility A by the NDR:

1. Process the record as usual

When the NDR message is received from Facility B by the NDR:

1. The NDR will first check if TransferredInFrom and TransferredInFromPatId are both populated
2. If both values are populated, NDR will check if a patient currently exists with a Unique Patient Identifier and Treatment Facility matching the values of TransferredInFrom and TransferredInFromPatId
   1. If a match is found:
      1. The patient’s Unique Patient Identifier and Treatment Facility (as assigned by the original Treatment Facility) will be pushed to the TRANSFERS table
      2. The patient’s Unique Patient Identifier and Treatment Facility will be updated with the values from TransferredInFrom and TransferredInFromPatId (as assigned by the new Treatment Facility)
      3. The NDR message will then continue processing as usual
   2. If no match is found, normal business logic will be applied for processing

**Since the NDR cannot control the order in which NDR messages will be received for patients across Treatment Facilities, if the NDR detects PatientTransferredOut is set to true, the NDR will first check if a documented transfer has already been executed by checking the TRANSFERS table. If a documented transfer has already been processed, the message will NOT be processed. If a documented transfer has NOT already been processed, the message will be processed as usual.**

## Developer Guidance

The list below provides guidance to developers for using the NDR Schema to create messages.

|  | Developer Guidance |
| --- | --- |
| 1 | If data is not available to populate an optional data element, do not send the data element |
| 2 | Prior to transmitting a message to the NDR, the message should be validated against the NDR Schema – all errors and warnings should be resolved before transmitting to the NDR |
| 3 | The NDR will not process a message if it fails validation against the NDR Schema |
| 4 | Messages should only be sent to NDR if new records have been added or existing records updated for a Patient since the last time data was transmitted to the NDR. If a drop request for data was executed, then messages should be sent with the entire history of the patients. |
| 5 | In the event that an EMR uses a coded value that is not defined for a data element defined as CodeType, the developer should contact the NDR Development Team for guidance |
| 6 | In the event that an EMR uses a coded value that is not defined for a data element defined as CodedSimpleType, the developer should place the code in Code and the description in CodeDescTxt |
| 7 | Depending on the data element, an Enumeration may be defined to ensure consistency of coded response across facilities. It is important to note that Enumerated data elements will fail message validation if a non-enumerated value is utilized. |
| 8 | Within the NDR Schema, Visit ID is a required field when sending information such as Regimens, Encounters, and Laboratory Reports. If a Visit ID is not available in the EMR, a consistent value should be used by the developer as Visit ID is used in record matching. |
| 9 | Within the NDR Schema, Visit Date is a required field when sending information such as Regimens, Encounters, and Laboratory Reports. If a Visit Date is not available in the EMR, a consistent value should be used by the developer as Visit Date is used in record matching. |
| 10 | Given the variation across EMRs of how coded questions are modeled, if an EMR captures multiple values for a single data element (i.e., multi-select), then multiple answers should be passed in the NDR Schema separated by a pipe character (“|”).  For example, if a Patient had a Fever and a Cough for “New symptoms/ diagnoses/ opportunistic infections” (ART064), then OtherOIOtherProblems data element would be modeled as:  <OtherOIOtherProblems>5|6</ OtherOIOtherProblems > |
| 11 | For data elements that communicate a date (e.g., Visit Date, Date of ART Start), the NDR Schema uses the native xs:date datatype using the format "YYYY-MM-DD" |
| 12 | For data elements that communicate a date and time (e.g., Message Creation Time), the NDR Schema uses the native xs:datetime datatype using the format "YYYY-MM-DDThh:mm:ss.ms" |
| 13 | Developers should utilize the below substitution rules for handling special characters that conflict with XML syntax:   1. &lt; Less-than character (<) 2. &amp; Ampersand character (&) 3. &gt; Greater-than character (>) 4. &quot; Double-quote character (") 5. &apos; Apostrophe or single-quote character (') |
| 14 | The of other special characters is discouraged including a dash, question mark, guillemets exclamation point, accent character |
| 15 | Values in the XML Message should not contain leading or trailing white space or hidden line returns and breaks. For example, the following should not be transmitted to the NDR:  <FacilityName> Central Medical Centre</FacilityName>  <FacilityName>Central Medical Centre </FacilityName>  <FacilityName> Central Medical Centre </FacilityName>  <FacilityName>Central Medical  Centre</FacilityName> |
| 16 | Within the NDR, for HIV, a patient is considered on ART when:   1. Date ART started (ART022) contains a valid date 2. ARV Drug Regimen (ART066) is available on an at least one HIV Encounter 3. Prescribed Regimen Type Code (REG005) equals ART for at least one Regimen |

## Binding Data to XML

To support data generation, the table below defines examples of Application Programming Interfaces (APIs) and third party (open source) tools to support automating the binding of data from EMR (or Implementing Partner) databases to the NDR Schema. For those unfamiliar, an excellent discussion on XML data binding is available from Liquid Technologies [http://www.liquid-technologies.com/Tutorials/XML-Data-Binding.aspx].

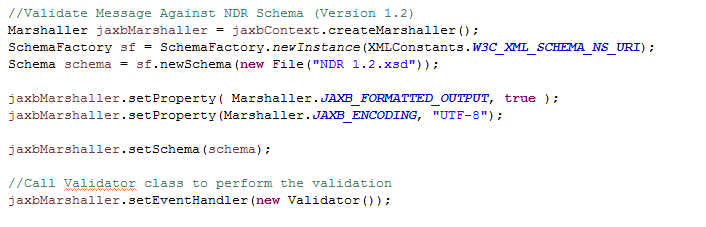
An inherent benefit of using an API / Third Party Tool is the ability to validate the message against the NDR schema prior to submission to the NDR. This real-time validation will reduce the friction in processing data within the NDR and the need for follow-up with facilities (or Implementing Partners).

|  | EMR Architecture | API / Third Party Tool |
| --- | --- | --- |
| 1 | **.NET** | Microsoft XML Schema Definition Tool (Xsd.exe) to generate classes to support mapping between database objects and schema |
| 2 | **.NET** | LINQ (Language-Integrated Query) to XML is a LINQ-enabled, in-memory XML programming interface that enables XML from within the .NET Framework programming languages |
| 3 | **Java** | Java Architecture for XML Binding (JAXB) allows Java developers to map Java classes to XML representations |
| 4 | **Java** | XMLBeans is a technology for accessing XML by binding it to Java types |
| 5 | **Java and .NET** | Mirth Connect Data Integration Engine for data integration and interoperability |

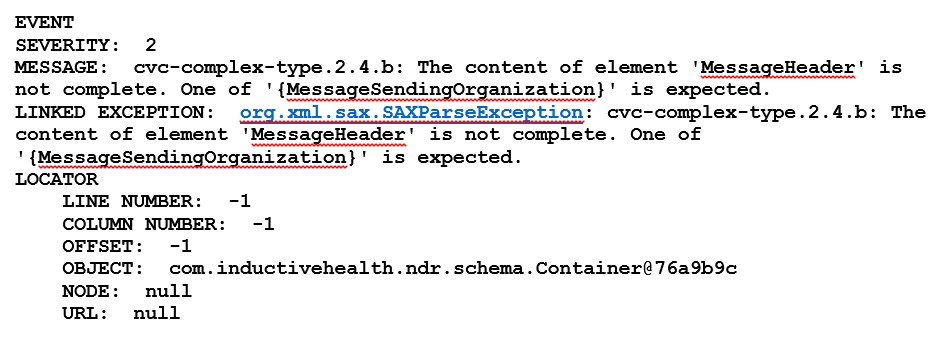
## Schema Validation

Defined in Developer Guidance section above, before an XML message is transmitted to the NDR, it must be validated against the NDR Schema. Typically, each message should be validated right after it is created using the validation features of the selected XML Binding API / Third Party Tool.

The figures below provide a schema validation example using the JAXB API for Java including sample output of a message that failed validation because it is missing the required MessageSendingOrganization data element in the Message Header.



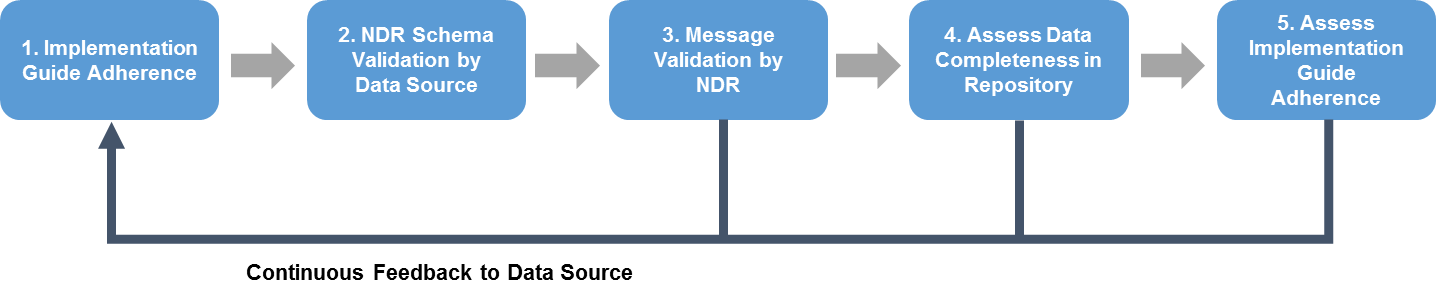




## Data Validation

Summarized in the figure below, NDR uses a multi-step process to validate adherence of NDR messages to the NDR Schema. In support of NDR objectives to provide a low barrier architecture for facilities to exchange data with NDR:

* Answers to coded data elements will be accepted into the NDR Transactional and Repository database that are not defined in the Implementation Guide
* The NDR Schema has a limited number of required data elements
* The NDR Team will continuously provide feedback to the NDR data sources with recommendations for enhancing Implementation Guide adherence



## Sample Code

A series of sample projects have been developed by the NDR Team to support facilities and Implementing Partners in binding EMR data to the NDR Schema.

## Message Validation Summary

The web portal will provide validation summary of every file submitted to the NDR once the files have been completely processed. Implementing partners or facilities should click on the “View Errors” button after the uploaded file has been processed to view and download validation errors in uploaded batches.

# NDR Schema

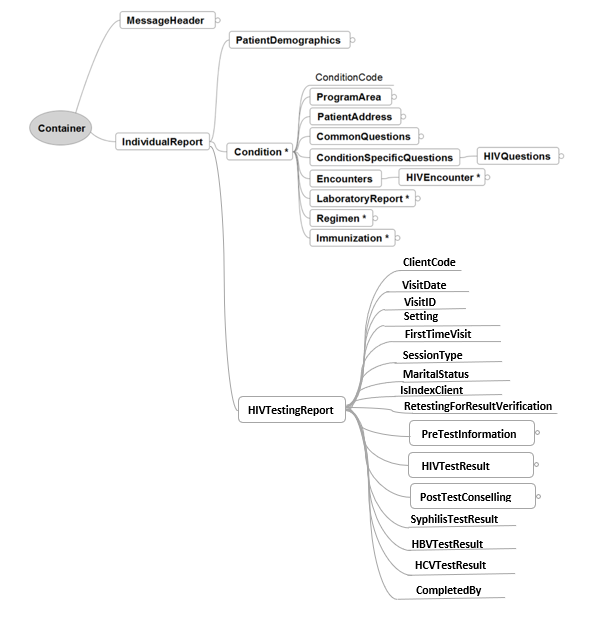
As defined in the Information Exchange Standards deliverable, the NDR Schema is the basis for how data should be sent to the NDR from the EMRs. Summarized in the figure below, the NDR Schema is implemented as an XML Schema Definition (XSD) and governs the encoding, structure, and content for sending patient-centric, Extensible Markup Language (XML) messages to the NDR. Fundamentally, the NDR Schema has been developed to be agnostic of EMR architectures while providing a low barrier solution for Implementing Partners.

**It is important to note that the NDR Schema is designed to generate a Patient specific message. Therefore, a single message should only contain information for a single Patient.**

The NDR Schema has evolved over time with major and minor releases. Major releases use the 1.x numbering scheme where the x represents the version. Minor releases use the 1.x.yy numbering scheme where the ‘x’ represents the major version and the ‘yy’ represents the update number.

The current version of the NDR Schema is Version 1.5.4. The changelog between releases is captured in the XSD changelog document.

The NDR will accept and process messages developed using major versions of the schema and will apply relevant validations for that major version where possible. The NDR will however, only process the latest minor version for the specified major version. For example, the NDR will process XML message generated against XSD versions 1.4 and 1.5 but will only process 1.5 messages if they match the current 1.5.4 minor release.

1. 

## Schema Element Structure

This section describes each of the structures defined within NDR Schema. Each sub-section includes an overview of the structure, graphical representation of the NDR Schema, and a table that defines data elements including whether an enumeration has been defined within the NDR Schema.

### Container

The root element in the message is the Container which holds the Message Header and an Individual Report. Both elements are required components of the Container.



| Container | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set |
| 1 | Message Header | N/A | Holds metadata on the message itself | MessageHeader | MessageHeaderType | R | [1..1] | N |  |
| 2 | Individual Report | N/A | Holds information on the Patient and their condition(s) | IndividualReport | IndividualReportType | R | [1..1] | N |  |

**Sample XML**

<Container>

<MessageHeader>

….

</MessageHeader>

<IndividualReport>

….

</IndividualReport>

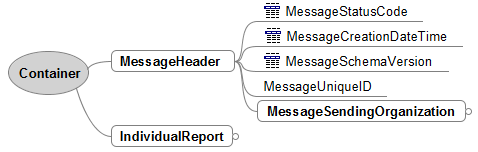
</Container>

### Message Header

The Message Header contains elements describing the message itself. All the elements in the Message Header are required items and all must be present in the message. Message Status is either “Initial”, “Updated”, or “Redacted” depending on the trigger event causing the creation of the message.

**It is important to note that the Message Sending Organization should be set to the organization that is responsible for sending NDR messages on behalf of the Patient’s Treatment Facility. The Message Sending Organization may be an Implementing Partner, the Treatment Facility in the case of a private facility, or another organization. The Message Sending Organization determines how data is grouped for reporting purposes. The message sending organization must have been onboarded to the NDR prior to the sending of messages or the data will not be processed. The FacilityID element in the MessageSendingOrganization tag is important as this usually represent the shortname of the entity and is critical to file ingestion.**

**Additionally, the Message Unique ID plays a critical role in providing the NDR Team with a non-sensitive identifier to use when communicating feedback about the message to the message sender. The Message Unique ID should uniquely identify the message itself.**



| MessageHeader | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| 1 | Message Status Code | MSG001 | Documents the message as either initial, updated, or redacted | MessageStatusCode | CodeType | R | [1..1] | Y | MESSAGE\_STATUS  Messages with a status of Redacted will not be included in data analysis or indicator generation |
| 2 | Message Creation Date Time | MSG002 | Provides date and time the message was created | MessageCreationDateTime | dateTime | R | [1..1] | N |  |
| 3 | Message Schema Version | MSG003 | Provides the schema version the message was created to | MessageSchemaVersion | decimal | R | [1..1] | N | Literal value of 1.4 or later should be utilized |
| 4 | Message Unique ID | MSG004 | Uniquely identifies the message | MessageUniqueID | StringType | R | [1..1] | N |  |
| 5 | Message Sending Organization | MSG005 | Provides information on the type of organization that sent the message to the NDR | MessageSendingOrganization | FacilityType | R | [1..1] | N |  |

**Sample XML**

<MessageHeader>

<MessageStatusCode>INITIAL</MessageStatusCode>

<MessageCreationDateTime>2015-08-26T18:02:50.07</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>4567</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

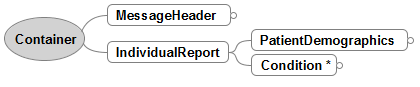
</MessageSendingOrganization>

</MessageHeader>

### Individual Report

The Individual Report consists of Patient Demographics and Condition. Both elements are required components of the Individual Report.

**It is important to note that multiple Condition elements are allowed if more than one condition is being sent for the same Patient.**



| IndividualReport | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| 1 | Patient Demographics | N/A | Holds information on the Patient’s Demographics including the Patient’s Treatment Facility | PatientDemographics | PatientDemographicsType | R | [1..1] | N |  |
| 2 | Condition | N/A | Holds information on a Patient’s Condition(s) | Condition | ConditionType | R | [1..\*] | N |  |

**Sample XML**

<IndividualReport>

<PatientDemographics>

...

</PatientDemographics>

<Condition>

...

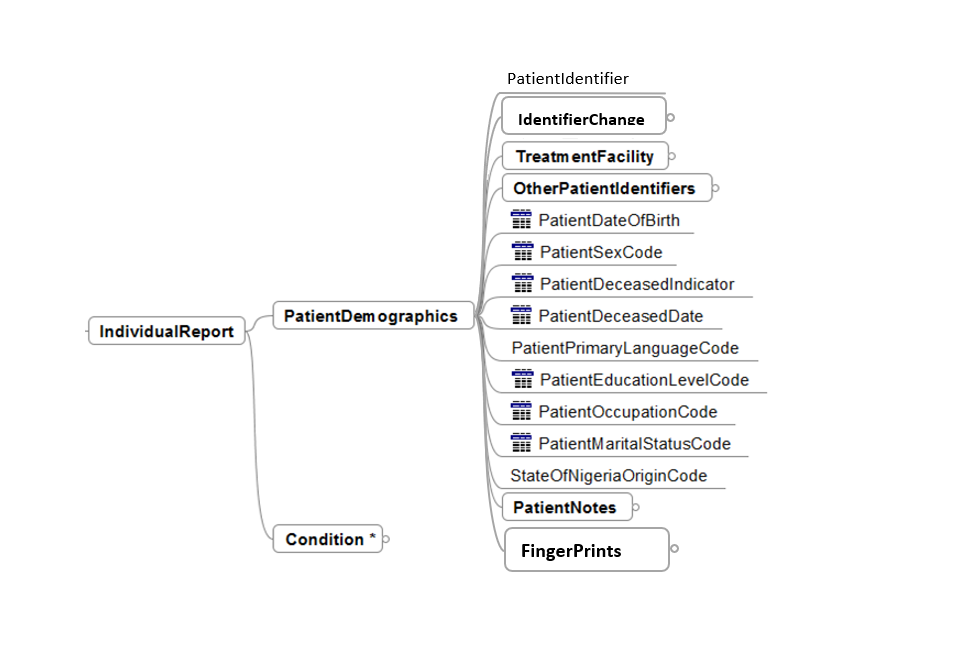
</Condition>

</IndividualReport>

### Patient Demographics

This element contains information about the Patient, such as date of birth, sex, occupation and other patient demographic information.

**It is important to note that for matching purposes, the NDR will utilize the Patient Identifier (PAT001) and the Treatment Facility (PAT002) to determine if a Patient currently exists in the NDR.**



| PatientDemographics | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
|  | Patient Identifier | PAT001 | * The unique identifier serves to link all records of patient encounters for a particular patient within a facility. The unique patient identifier is a single identifier that is permanently assigned and cannot be reused once it has been created. | PatientIdentifier | StringType | R | [1..1] | N |  |
| 2 | * Identifier Change |  | * The Identifier change captures a change in a patients’ identifier | IdentifierChange | Boolean | 0 | [0..1] | N |  |
| 3 | Treatment Facility Name | PAT002 | The facility at which the current treatment or care is being provided | TreatmentFacility | FacilityType | R | [1..1] | N |  |
| 4 | Other Patient Identifiers | PAT003 | Other patient identifiers that may exist in the EMR for the patient | OtherPatientIdentifiers | IdentifiersType | O | [0..1] | N |  |
| 5 | Patient Date Of Birth | PAT004 | Date of birth of the patient | PatientDateOfBirth | date | R | [0..1] | N |  |
| 6 | Patient Sex Code | PAT005 | The sex of the patient | PatientSexCode | CodeType | R | [0..1] | Y | SEX |
| 7 | Patient Deceased Indicator | PAT006 | Indicates if the patient has died | PatientDeceasedIndicator | boolean | O | [0..1] | N |  |
| 8 | Patient Decease Date | PAT007 | Date of death | PatientDeceasedDate | date | O | [0..1] | N |  |
| 9 | Patient Primary Language Code | PAT008 | Primary language used by patient | PatientPrimaryLanguageCode | CodeType | O | [0..1] | N | LANGUAGE |
| 10 | Patient Education Level Code | PAT009 | Highest level of formal education and training attained in an academic setting | PatientEducationLevelCode | CodeType | O | [0..1] | Y | EDUCATIONAL\_LEVEL |
| 11 | Patient Occupation Code | PAT010 | Occupation status of patient | PatientOccupationCode | CodeType | O | [0..1] | Y | OCCUPATION\_STATUS |
| 12 | Patient Marital Status Code | PAT011 | The marital status of the patient | PatientMaritalStatusCode | CodeType | O | [0..1] | Y | MARITAL\_STATUS |
| 13 | State Of Nigeria Origin Code | PAT012 | State of origin if patient is Nigerian | StateOfNigeriaOriginCode | CodeType | O | [0..1] | N | STATES |
| 14 | Patient Notes | PAT013 | Notes about the patient that do not contain personally identifying information | PatientNotes | NoteType | O | [0..1] | N |  |
| 15 | Finger Prints |  | Finger prints of patients | FingerPrints | string | O | [0..1] | N |  |

**Sample XML**

<PatientDemographics>

<PatientIdentifier>19283746</PatientIdentifier>

<IdentifierChange>

<PatientIdentifierChange>true</ PatientIdentifierChange >

<OldPatientIdentifier>19283776</OldPatientIdentifier>

</IdentifierChange>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<OtherPatientIdentifiers>

<Identifier>

<IDNumber>678-251-0-1234</IDNumber>

<IDTypeCode>PN</IDTypeCode>

</Identifier>

</OtherPatientIdentifiers>

<PatientDateOfBirth>1976-07-11</PatientDateOfBirth>

<PatientSexCode>F</PatientSexCode>

<PatientDeceasedIndicator>true</PatientDeceasedIndicator>

<PatientDeceasedDate>2015-08-10</PatientDeceasedDate>

<PatientPrimaryLanguageCode>ENG</PatientPrimaryLanguageCode>

<PatientEducationLevelCode>3</PatientEducationLevelCode>

<PatientOccupationCode>EMP</PatientOccupationCode>

<PatientMaritalStatusCode>M</PatientMaritalStatusCode>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

<PatientNotes>

<Note>Notes about the patient that do not contain personally identifying information</Note>

</PatientNotes>

<FingerPrints present=“true”>

<dateCaptured>12-09-2019:90.6:30</dateCaptured>

        <RightHand>

        <RightIndex>Rk1SACAyMAAAAAC6AAABBAEsAMUAxQEAAhBYGoDOADH8AEBhADobAEBfAFoeAE</RightIndex> <RightMiddle>Rk1SACAyMAAAAAEUAAABBAEsAMUAxQEAAxBUKUBvACCGAEB1A</RightMiddle> <RightWedding>Rk1SACAyMAAAAAEaAAABBAEsAMUAxQEABBBXKkCcACYAIRightWedding> <RightSmall>Rk1SACAyMAAAAADYAAABBAEsAMUAxQEABRAqH4CkA</RightSmall>

</RightHand>

  <LeftHand>

          <LeftThumb></ LeftThumb >

          <LeftIndex></ LeftIndex >

          <LeftMiddle></ LeftMiddle >

          <LeftWedding></ LeftWedding >

          <LeftSmall></LeftSmall>

   </LeftHand>

<source>N</source>

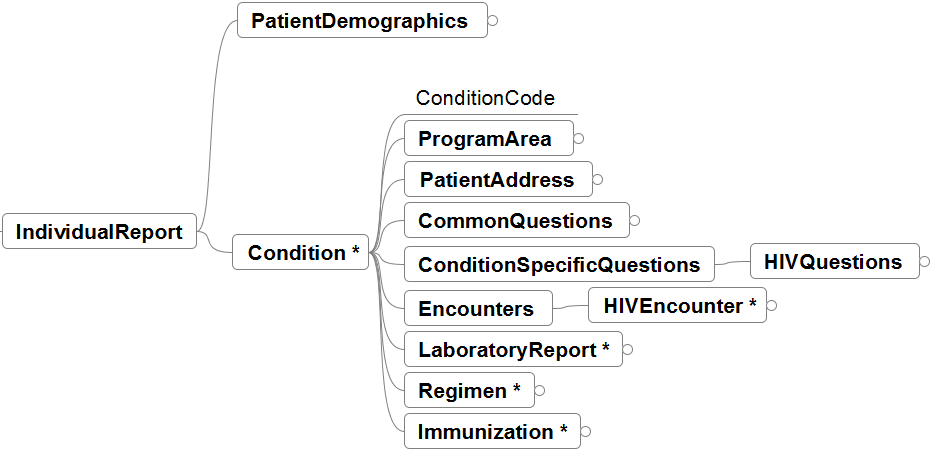
</FingerPrints>

</PatientDemographics>

### Condition

The Condition element is illustrated below. More than one Condition can be included in the XML message for a Patient.

**It is important to note that Condition has been designed to be as flexible as possible with only a small number of required data elements. This is to enable the reporting of diseases other than HIV to the NDR.**



| ConditionType | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| 1 | Condition Code | N/A | Patient’s Condition | ConditionCode | CodeType | R | [1..1] | N |  |
| 2 | Program Area | N/A | Program Area of the Condition | ProgramArea | ProgramAreaType | R | [1..1] | N |  |
| 3 | Patient Address | N/A | Patient’s Address | PatientAddress | AddressType | O | [0..1] | N |  |
| 4 | Common Questions | N/A | Common Questions about the condition | CommonQuestions | CommonQuestionsType | O | [0..1] | N |  |
| 5 | Condition Specific Questions | N/A | Condition specific questions | ConditionSpecificQuestions | ConditionSpecificQuestionsType | O | [0..1] | N |  |
| 6 | Encounters | N/A | Encounters | Encounters | EncountersType | O | [0..1] | N |  |
| 7 | Laboratory Reports | N/A | Laboratory Reports | LaboratoryReport | LaboratoryReportType | O | [0..\*] | N |  |
| 8 | Regimens | N/A | Regimens | Regimen | RegimenType | O | [0..\*] | N |  |
| 9 | Immunizations | N/A | Immunizations | Immunization | ImmunizationType | O | [0..\*] | N |  |

### Condition Code

Condition code contains the diagnosed condition being included in the Condition element for this Patient.

| ConditionCode | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Condition Code** | **COM001** | **The code that represents the Condition** | **ConditionCode** | **CodeType** | **R** | **[1..1]** | **N** | **CONDITION\_CODE** |

**Sample XML**

<Condition>

<ConditionCode>86406008</ConditionCode>

…

</Condition>

### Program Area

Program area denotes the Program Area in which the condition exists.

| ProgramArea | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Program Area Code** | **COM002** | **Logical grouping of the Condition Code** | **ProgramAreaCode** | **CodeType** | **R** | **[1..1]** | **N** | **PROGRAM\_AREA** |

**Sample XML**

<Condition>

…

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

…

</Condition>

### Patient Address

This address provides the current geo-location of the Patient.

**It is important to note the Patient Address does not allow granular address information to be transmitted (e.g., Street Address).**

| PatientAddress | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Address Type Code** | **PAT014** | **Defines the type of address information being provided (home, temporary, legal, etc)** | **AddressTypeCode** | **CodeType** | **R** | **[1..1]** | **N** | **ADDRESS\_TYPE**  **Default to H for Home** |
| **2** | **Ward / Village** | **PAT015** | **Ward or village where this address is located** | **WardVillage** | **StringType** | **O** | **[0..1]** | **N** |  |
| **3** | **Town** | **PAT016** | **Town in which this address is located** | **Town** | **StringType** | **O** | **[0..1]** | **N** |  |
| **4** | **LGA** | **PAT017** | **Local Government Area for this address** | **LGACode** | **CodeType** | **R** | **[0..1]** | **N** | **LGA** |
| **5** | **State** | **PAT018** | **State in which this address is located** | **StateCode** | **CodeType** | **R** | **[0..1]** | **N** | **STATES** |
| **6** | **Country Code** | **PAT019** | **Country in which this address is located** | **CountryCode** | **CodeType** | **O** | **[0..1]** | **N** | **COUNTRY**  **Default to NGA for Nigeria** |
| **7** | **Postal Code** | **PAT020** | **Postal code (if used) for this addressed** | **PostalCode** | **StringType** | **O** | **[0..1]** | **N** |  |
| **8** | **Other Address Information** | **PAT021** | **Notes about this address** | **OtherAddressInformation** | **StringType** | **O** | **[0..1]** | **N** |  |

**Sample XML**

<Condition>

…

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<WardVillage>Central</WardVillage>

<Town>Abuja</Town>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

<PostalCode>12345</PostalCode>

<OtherAddressInformation>Enter notes about the address if needed</OtherAddressInformation>

</PatientAddress>

…

</Condition>

### Common Questions

The Common Questions section cover general information about the Patient’s condition and is reusable across Conditions.

| CommonQuestions | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Hospital Number** | **COM003** | **Number that represent the hospital** | **HospitalNumber** | **StringType** | **O** | **[1..1]** | **N** |  |
| **2** | **Diagnosis Facility** | **COM004** | **If known, the facility at which the original diagnosis was made** | **DiagnosisFacility** | **FacilityType** | **O** | **[0..1]** | **N** |  |
| **3** | **Date Of First Report** | **COM005** | **Date of the first report for this condition for this patient** | **DateOfFirstReport** | **date** | **O** | **[0..1]** | **N** |  |
| **4** | **Date Of Last Report** | **COM006** | **Date of the last report for this condition for this patient** | **DateOfLastReport** | **date** | **O** | **[0..1]** | **N** |  |
| **5** | **Diagnosis Date** | **COM007** | **Earliest known date of diagnosis of this condition for this patient** | **DiagnosisDate** | **date** | **O** | **[0..1]** | **N** |  |
| **6** | **Patient Die From This Illness** | **COM008** | **Did the patient die from this condition** | **PatientDieFromThisIllness** | **boolean** | **O** | **[0..1]** | **N** |  |
| **7** | **Patient Pregnancy Status Code** | **COM009** | **Is the patient pregnant** | **PatientPregnancyStatusCode** | **CodeType** | **O** | **[0..1]** | **Y** | **PREGNANCY\_STATUS** |
| **8** | **Estimate Delivery Date** | **COM010** | **If pregnant, when is the estimated delivery date?** | **EstimatedDeliveryDate** | **date** | **O** | **[0..1]** | **N** |  |
| **9** | **Patient Age** | **COM011** | **The age of the person in years. Input when a patient does not know his/her date of birth. Calculate when the date of birth is known.** | **PatientAge** | **int** | **O** | **[0..1]** | **N** | **Age Units are assumed to be Years** |

**Sample XML**

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2015-08-29</DateOfFirstReport>

<DateOfLastReport>2015-08-29</DateOfLastReport>

<DiagnosisDate>2012-09-02</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientPregnancyStatusCode>P</PatientPregnancyStatusCode>

<EstimatedDeliveryDate>2015-11-13</EstimatedDeliveryDate>

<PatientAge>40</PatientAge>

</CommonQuestions>

### Condition Specific Questions

Condition Specific Questions are focused question related to a specific condition. For HIV, these questions are within the HIV Questions data element, and generally follow Care Card Page 1 of the National Forms.

As additional diseases are on boarded to the NDR, the available list of Condition Specific Questions will be expanded.



| **HIVQuestions** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Care Entry Point** | **ART011** | **The entry point into HIV care** | **CareEntryPoint** | **CodeType** | **O** | **[0..1]** | **Y** | **CARE\_ENTRY\_POINT** |
| **2** | **Date of Confirmed HIV test** | **ART012** | **Date of First Confirmed HIV test** | **FirstConfirmedHIVTestDate** | **date** | **O** | **[0..1]** | **N** |  |
| **3** | **Mode of HIV Test** | **ART013** | **Mode of HIV Test (Antibody or PCR)** | **FirstHIVTestMode** | **CodeType** | **O** | **[0..1]** | **Y** | **HIV\_TEST\_TYPE** |
| **4** | **Where** | **ART014** | **Location (facility or testing point) where patient was confirmed positive** | **WhereFirstHIVTest** | **StringType** | **O** | **[0..1]** | **N** |  |
| **5** | **Prior ART** | **ART015** | **Prior ART received** | **PriorArt** | **CodeType** | **O** | **[0..1]** | **N** | **PRIOR\_ART** |
| **6** | **Date Medically eligible** | **ART016** | **Date determined medically eligible to start ART** | **MedicallyEligibleDate** | **date** | **O** | **[0..1]** | **N** |  |
| **7** | **Why Eligible** | **ART017** | **Why medically eligible to start ART** | **ReasonMedicallyEligible** | **CodeType** | **O** | **[0..1]** | **Y** | **WHY\_ELIGIBLE** |
| **8** | **Date Initial Adherence Counseling Completed** | **ART018** | **Date Initial Adherence Counseling Completed** | **InitialAdherenceCounselingCompletedDate** | **date** | **O** | **[0..1]** | **N** |  |
| **9** | **Date Transferred in** | **ART019** | **Date transferred in from another treatment facility on ART** | **TransferredInDate** | **date** | **O** | **[0..1]** | **N** |  |
| **10** | **Facility transferred From** | **ART020** | **Location transferred from** | **TransferredInFrom** | **FacilityType** | **O** | **[0..1]** | **N** |  |
| **11** | **Transferred In From Patient Identifier** | **ART103** | **Unique patient ID at facility transferred from** | **TransferredInFromPatID** | **StringType** | **O** | **[0..1]** | **N** |  |
| **12** | **First ART Regimen** | **ART021** | **First ARV regimen prescribed for this patient** | **FirstARTRegimen** | **CodedSimpleType** | **O** | **[0..1]** | **N** | **ARV\_REGIMEN** |
| **13** | **Date ART started** | **ART022** | **Refers to the date a patient begins the first, original ART regimen in the system (or document the date a patient started in any programme or under care of another practitioner if this date is known)** | **ARTStartDate** | **date** | **O** | **[0..1]** | **N** |  |
| **14** | **Clinical Stage at start of ART** | **ART023** | **WHO clinical stage when medically eligible** | **WHOClinicalStageARTStart** | **CodeType** | **O** | **[0..1]** | **Y** | **WHO\_STAGE** |
| **15** | **Weight** | **ART024** | **Body weight (in kg) at start of ART** | **WeightAtARTStart** | **int** | **O** | **[0..1]** | **N** |  |
| **16** | **Height (if child)** | **ART025** | **Height (in cm) at start of ART (for children)** | **ChildHeightAtARTStart** | **int** | **O** | **[0..1]** | **N** |  |
| **17** | **Function** | **ART026** | **Functional status at start of ART** | **FunctionalStatusStartART** | **CodeType** | **O** | **[0..1]** | **Y** | **FUNCTIONAL\_STATUS** |
| **18** | **CD4 at start of ART** | **ART027** | **Baseline CD4 count or percentage or TLC count if medically eligible** | **CD4AtStartOfART** | **StringType** | **O** | **[0..1]** | **N** |  |
| **19** | **Patient transferred out** | **ART046** | **Indicator for whether the patient has transferred out** | **PatientTransferredOut** | **boolean** | **O** | **[0..1]** | **N** |  |
| **20** | **Patient transferred out (status** | **ART200** | **ART status of patient when transferred out** | **TransferredOutStatus** | **CodeType** | **O** | **[0..1]** | **Y** | **ART\_STATUS** |
| **21** | **Patient transferred out date** | **ART045** | **Date when patient transferred out** | **TransferredOutDate** | **date** | **O** | **[0..1]** | **N** |  |
| **22** | **Facility Referred To** | **ART047** | **Name of the facility referred to** | **FacilityReferredTo** | **FacilityType** | **O** | **[0..1]** | **N** |  |
| **23** | **Patient has died** | **ART048** | **Has the patient died (any cause)** | **PatientHasDied** | **boolean** | **O** | **[0..1]** | **N** |  |
| **24** | **Patient has died ART status** | **ART201** | **ART/Pre-ART status at death** | **StatusAtDeath** | **CodeType** | **O** | **[0..1]** | **Y** | **ART\_STATUS** |
| **25** | **Patient has died date** | **ART049** | **Date of death** | **DeathDate** | **date** | **O** | **[0..1]** | **N** |  |
| **26** | **Source of death information** | **ART050** | **Source of death information** | **SourceOfDeathInformation** | **StringType** | **O** | **[0..1]** | **N** |  |
| **27** | **Cause of Death: HIV related:** | **ART051** | **Indicates whether the cause of death was HIV related** | **CauseOfDeathHIVRelated** | **CodeType** | **O** | **[0..1]** | **Y** | **YNU** |
| **28** | **Drug Allergies** | **ART052** | **List of known drug allergies** | **DrugAllergies** | **StringType** | **O** | **[0..1]** | **N** |  |
| **29** | **Date enrolled in HIV care** | **ART005** | **Date enrolled into HIV care** | **EnrolledInHIVCareDate** | **date** | **R** | **[0..1]** | **N** |  |
| **30** | **Initial TB Status** | **ART102** | **Initial TB status** | **InitialTBStatus** | **CodeType** | **O** | **[0..1]** | **Y** | **TB\_STATUS** |
| **31** | **Stopped Treatment** |  | **Has patient stopped treatment** | **PatientStoppedTreatment** | **Boolean** | **O** | **[0.. 1]** | **N** |  |
| **32** | **Stopped Treatment Date** |  | **Date stopped treatment** | **StoppedTreatmentDate** | **Date** | **O** | **[0... 1]** | **N** |  |
| **33** | **Reason Stopped Treatment** |  | **Reason the patient stopped treatment** | **StoppedTreatmentReason** | **StringType** | **O** | **[0.. 1]** | **N** |  |

**Sample XML**

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2012-06-14</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Clinic Testing Name</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2012-10-06</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<InitialAdherenceCounselingCompletedDate>2012-10-06</InitialAdherenceCounselingCompletedDate>

<TransferredInDate>2012-12-07</TransferredInDate>

<TransferredInFrom>

<FacilityName>Medical Centre</FacilityName>

<FacilityID>FM1651653</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TransferredInFrom>

<TransferredInFromPatId>6598123</TransferredInFromPatId>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2012-10-06</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>69</WeightAtARTStart>

<ChildHeightAtARTStart>116</ChildHeightAtARTStart>

<FunctionalStatusStartART>A</FunctionalStatusStartART>

<CD4AtStartOfART>99</CD4AtStartOfART>

<PatientTransferredOut>true</PatientTransferredOut>

<TransferredOutStatus>A</TransferredOutStatus>

<TransferredOutDate>2013-01-05</TransferredOutDate>

<FacilityReferredTo>

<FacilityName>Medical Hospital</FacilityName>

<FacilityID>CF03487</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</FacilityReferredTo>

<PatientHasDied>true</PatientHasDied>

<StatusAtDeath>P</StatusAtDeath>

<DeathDate>2013-01-15</DeathDate>

<SourceOfDeathInformation>Hospital notification</SourceOfDeathInformation>

<CauseOfDeathHIVRelated>N</CauseOfDeathHIVRelated>

<DrugAllergies>Penicillin</DrugAllergies>

<EnrolledInHIVCareDate>2012-06-14</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

<PatientStoppedTreatment>true</PatientStoppedTreatment>

< **StoppedTreatmentDate** >true</ **StoppedTreatmentDate** >

< **StoppedTreatmentReason** >true</ **StoppedTreatmentReason** >

</HIVQuestions>

</ConditionSpecificQuestions>

### Encounters

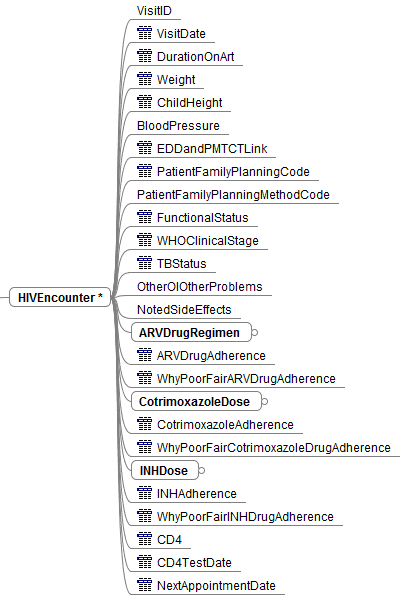
Encounters are questions regularly captured during a clinical encounter related to the condition.

For HIV, encounter questions are within the HIV Encounter data element, and generally follow Care Card Page 2 of the National Forms.

An HIV Encounter data element is created for each of a Patient’s Encounter.

**It is important to note that the HIV Encounter questions include discrete questions related to Regimens and Laboratory Results (e.g., ARV Drug Regimen, Latest CD4 Result). If the EMR captures these discrete values as part of the Encounter, the values should be transmitted as defined below. If the EMR does not capture the Regimen and Laboratory Results as discrete questions, then the detailed Regimen and Laboratory Result information should be transmitted as defined in the NDR Schema.**





| HIVEncounter | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| 1 | Visit Identifier | ART101 | The identification code or number used to uniquely identify the clinical visit | VisitID | StringType | R | [1..1] | N |  |
| 2 | Visit Date | ART053 | Patient encounter information is collected and updated every time a patient visits a health facility. This date applies to all outpatient encounter data for that date. | VisitDate | date | R | [1..1] | N |  |
| 3 | Duration (in Months) on ART | ART055 | Duration (in Months) on ART | DurationOnArt | int | O | [0..1] | N |  |
| 4 | Weight (kg) | ART056 | Current Weight (kg) | Weight | int | O | [0..1] | N |  |
| 5 | Height (if child) (cm) | ART057 | Current Height (if child) (cm) | ChildHeight | int | O | [0..1] | N |  |
| 6 | Blood Pressure (mmHg) Adults Only | ART058 | Current Blood Pressure (mmHg) Adults Only | BloodPressure | StringType | O | [0..1] | N |  |
| 7 | EDD and PMTCT Link | ART059 | EDD and PMTCT Link | EDDandPMTCTLink | CodeType | O | [0..1] | Y | EDD\_PMTCT\_LINK |
| 8 | Patient Family Planning Code | ART060 | Describes status of use of family planning | PatientFamilyPlanningCode | CodeType | O | [0..1] | Y | FAMILY\_PLANNING\_STATUS |
| 9 | Patient Family Planning Method Code | ART202 | Describes type of family planning method used | PatientFamilyPlanningMethodCode | CodeType | O | [0..1] | Y | FAMILY\_PLANNING\_METHOD |
| 10 | Functional Status | ART061 | Functional Status | FunctionalStatus | CodeType | O | [0..1] | Y | FUNCTIONAL\_STATUS |
| 11 | WHO Clinical Stage | ART062 | Current WHO Clinical Stage | WHOClinicalStage | CodeType | O | [0..1] | Y | WHO\_STAGE |
| 12 | TB Status | ART063 | Current TB Status | TBStatus | CodeType | O | [0..1] | Y | TB\_STATUS |
| 13 | Other Ois/Other Problems | ART064 | New symptoms/ diagnoses/ opportunistic infections | OtherOIOtherProblems | CodeType | O | [0..1] | N | OI\_OTHER |
| 14 | Noted Side Effects | ART065 | Possible medication side- effects or other problems | NotedSideEffects | CodeType | O | [0..1] | N | ADVERSE\_REACTIONS |
| 15 | ARV Drug Regimen | ART066 | ARV Drug Regimen | ARVDrugRegimen | CodedSimpleType | O | [0..1] | N | ARV\_REGIMEN |
| 16 | ARV Drugs Adherence | ART067 | ARV Drugs Adherence | ARVDrugAdherence | CodeType | O | [0..1] | Y | ADHERANCE |
| 17 | Why Poor /Fair adherence | ART068 | Why Poor /Fair adherence | WhyPoorFairARVDrugAdherence | CodeType | O | [0..1] | Y | ADHERANCE\_POORFAIR\_REASON |
| 18 | Cotrimoxazole Dose | ART069 | Cotrimoxazole Dose | CotrimoxazoleDose | CodedSimpleType | O | [0..1] | N | OI\_REGIMEN |
| 19 | Cotrimoxazole Adherence | ART070 | Cotrimoxazole Adherence | CotrimoxazoleAdherence | CodeType | O | [0..1] | Y | ADHERANCE |
| 20 | Why Poor /Fair adherence | ART071 | Why Poor /Fair adherence | WhyPoorFairCotrimoxazoleDrugAdherence | CodeType | O | [0..1] | Y | ADHERANCE\_POORFAIR\_REASON |
| 21 | INH Dose | ART072 | INH Dose | INHDose | CodedSimpleType | O | [0..1] | N | TB\_REGIMEN |
| 22 | INH Adherence | ART073 | INH Adherence | INHAdherence | CodeType | O | [0..1] | Y | ADHERANCE |
| 23 | Why Poor /Fair adherence | ART074 | Why Poor /Fair adherence | WhyPoorFairINHDrugAdherence | CodeType | O | [0..1] | Y | ADHERANCE\_POORFAIR\_REASON |
| 24 | CD4 | ART076 | Latest CD4 result | CD4 | int | O | [0..1] | N |  |
| 25 | Latest CD4 result date | ART104 | Latest CD4 result date | CD4TestDate | date | O | [0..1] | N |  |
| 26 | Next Appt Date | ART082 | Date of next scheduled appointment | NextAppointmentDate | date | O | [0..1] | N |  |

**Sample XML**

**It is important to note that this example demonstrates how multiple values can be passed for single data elements (OtherOIOtherProblems and NotedSideEffects).**

<Encounters>

<HIVEncounter>

<VisitID>4567891</VisitID>

<VisitDate>2014-02-08</VisitDate>

<DurationOnArt>20</DurationOnArt>

<Weight>73</Weight>

<BloodPressure>126/95</BloodPressure>

<EDDandPMTCTLink>NK</EDDandPMTCTLink>

<PatientFamilyPlanningCode>FP</PatientFamilyPlanningCode>

<PatientFamilyPlanningMethodCode>FP3</PatientFamilyPlanningMethodCode>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<OtherOIOtherProblems>3|5</OtherOIOtherProblems>

<NotedSideEffects>4|2|6</NotedSideEffects>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<ARVDrugAdherence>F</ARVDrugAdherence>

<WhyPoorFairARVDrugAdherence>8</WhyPoorFairARVDrugAdherence>

<CotrimoxazoleDose>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</CotrimoxazoleDose>

<CotrimoxazoleAdherence>P</CotrimoxazoleAdherence>

<WhyPoorFairCotrimoxazoleDrugAdherence>10</WhyPoorFairCotrimoxazoleDrugAdherence>

<INHDose>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</INHDose>

<INHAdherence>F</INHAdherence>

<WhyPoorFairINHDrugAdherence>7</WhyPoorFairINHDrugAdherence>

<CD4>145</CD4>

<CD4TestDate>2013-03-28</CD4TestDate>

<NextAppointmentDate>2013-04-30</NextAppointmentDate>

</HIVEncounter>

<HIVEncounter>

…

</HIVEncounter>

<HIVEncounter>

…

</HIVEncounter>

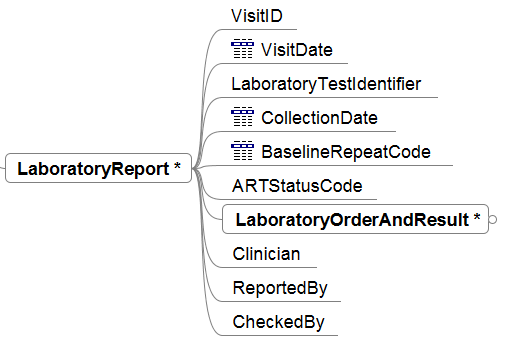
</Encounters>

### Laboratory Report

The Laboratory Report is utilized to capture detailed information on the Patient’s Laboratory Reports.

**It is important to note that the Laboratory Report element has been designed to support multiple conditions.**

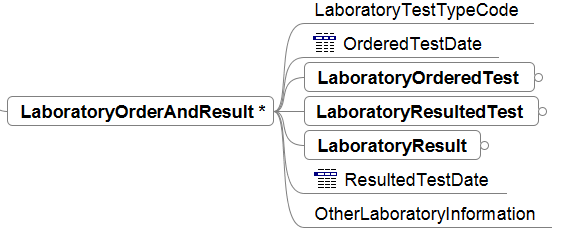
Within the NDR Schema, a single Laboratory Report can include multiple Laboratory Results.



| LaboratoryReport | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Visit Identifier** | **LAB001** | **The identification code or number used to uniquely identify the clinical visit** | **VisitID** | **StringType** | **R** | **[1..1]** | **N** |  |
| **2** | **Visit Date** | **LAB002** | **Visit date applies to all outpatient encounter data for that date.** | **VisitDate** | **date** | **R** | **[1..1]** | **N** |  |
| **3** | **Lab Registration No** | **LAB205** | **Lab Registration No** | **LaboratoryTestIdentifier** | **StringType** | **O** | **[0..1]** | **N** |  |
| **4** | **Sample Collection Date** | **LAB500** | **Collection Date** | **CollectionDate** | **date** | **R** | **[0..1]** | **N** |  |
| **5** | **Baseline/Repeat** | **LAB196** | **Baseline/Repeat** | **BaselineRepeatCode** | **CodeType** | **O** | **[0..1]** | **Y** | **TESTING\_STATUS** |
| **6** | **Patient's ART status** | **LAB192** | **Patient's ART status** | **ARTStatusCode** | **CodeType** | **O** | **[0..1]** | **N** | **ART\_STATUS**  **If a Laboratory Report is being sent for a condition other than HIV, this data element would not be sent.** |
| **7** | **LaboratoryOrderAndResult** | **N/A** | **Repeating block comprised of Resulted Tests** | **LaboratoryOrderAndResult** | **LaboratoryOrderAndResult** | **R** | **[1..\*]** | **N** |  |
| **8** | **Name of Clinician** | **LAB212** | **Clinician** | **Clinician** | **StringType** | **O** | **[0..1]** | **N** |  |
| **9** | **Reported by** | **LAB214** | **Reported by** | **ReportedBy** | **StringType** | **O** | **[0..1]** | **N** |  |
| **10** | **Checked by** | **LAB216** | **Checked by** | **CheckedBy** | **StringType** | **O** | **[0..1]** | **N** |  |

### Laboratory Order and Result

Each Laboratory Report can include 1 or many Laboratory Order and Result pairings.



| Laboratory Order and Result | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Laboratory Test Type Code** | **LAB600** | **Laboratory Test Type Code** | **LaboratoryTestTypeCode** | **CodeType** | **O** | **[0..1]** | **N** | ***This field is not currently used in the schema*** |
| **2** | **Ordered Test Date** | **LAB601** | **Ordered Test Date** | **OrderedTestDate** | **date** | **R** | **[0..1]** | **N** |  |
| **3** | **Laboratory Ordered Test** | **LAB602** | **Laboratory Ordered Test** | **LaboratoryOrderedTest** | **CodedSimpleType** | **O** | **[0..1]** | **N** | ***This field is not currently used in the schema*** |
| **4** | **Laboratory**  **Resulted Test** | **LAB603** | **Laboratory Resulted Test** | **LaboratoryResultedTest** | **CodedSimpleType** | **R** | **[1..1]** | **N** | **LAB\_RESULTED\_TEST** |
| **5** | **Laboratory**  **Result** | **LAB604** | **Laboratory Result** | **LaboratoryResult** | **AnswerType** | **R** | **[1..1]** | **N** |  |
| **6** | **Resulted Test Date** | **LAB605** | **Resulted Test Date** | **ResultedTestDate** | **date** | **R** | **[0..1]** | **N** |  |
| **7** | **Other Laboratory Information** | **LAB606** | **Other Laboratory Information** | **OtherLaboratoryInformation** | **StringType** | **O** | **[0..1]** | **N** |  |

**Sample XML**

<LaboratoryReport>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<LaboratoryTestIdentifier>lt65498</LaboratoryTestIdentifier>

<CollectionDate>2010-03-10</CollectionDate>

<BaselineRepeatCode>B</BaselineRepeatCode>

<ARTStatusCode>P</ARTStatusCode>

<LaboratoryOrderAndResult>

<OrderedTestDate>2010-03-10</OrderedTestDate>

<LaboratoryResultedTest>

<Code>80</Code>

<CodeDescTxt>Viral Load</CodeDescTxt>

</LaboratoryResultedTest>

<LaboratoryResult>

<AnswerNumeric>

<Value1>16000</Value1>

</AnswerNumeric>

</LaboratoryResult>

<ResultedTestDate>2010-03-10</ResultedTestDate>

<OtherLaboratoryInformation>Information such as clinical indication for the test that was provided

with the lab order</OtherLaboratoryInformation>

</LaboratoryOrderAndResult>

<Clinician>Clinician Name</Clinician>

<ReportedBy>Reporter Name</ReportedBy>

<CheckedBy>Checkedby Name</CheckedBy>

</LaboratoryReport>

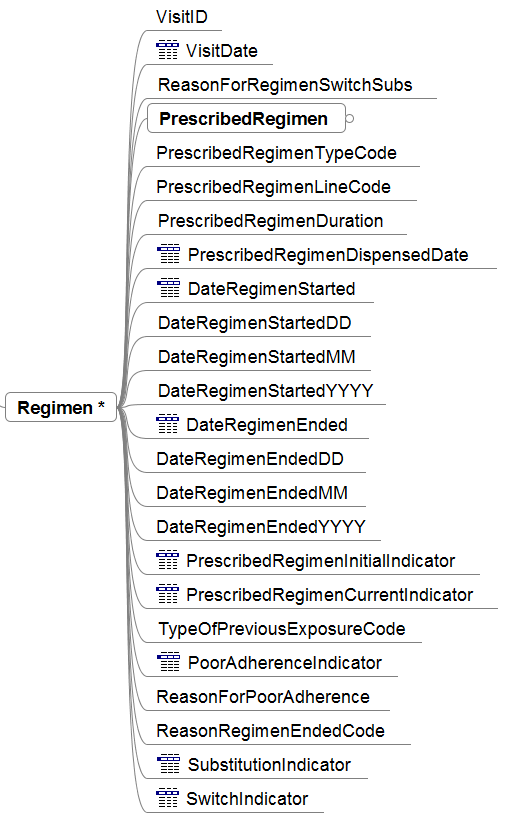
### Regimen

A Regimen represents the prescribed course of medical treatment for the promotion or restoration of health. In the context of NDR, the Regimen will typically represent the medication that a Patient has been prescribed.

In the context of HIV, Regimens for ARV, Tuberculosis, and Other Opportunistic Infections should be transmitted to NDR.

**It is important to note that the Regimen element has been designed to support multiple conditions.**

**It is important to note that in future versions of the NDR Schema, Regimen will be extended to include the actual medications that comprise the Regimen.**



| Regimen | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Visit ID** | **REG001** | **The identification code or number used to uniquely identify the clinical visit** | **VisitID** | **StringType** | **R** | **[1..1]** | **N** |  |
| **2** | **Visit Date** | **REG002** | **Visit date applies to all outpatient encounter data for that date.** | **VisitDate** | **date** | **R** | **[1..1]** | **N** |  |
| **3** | **Reason For Regimen Switch Subs** | **REG003** | **Reason for regimen switch or substitution** | **ReasonForRegimenSwitchSubs** | **CodeType** | **O** | **[0..1]** | **N** | **REGIMEN\_SUB\_SWITCH\_REASON** |
| **4** | **Prescribed Regimen** | **REG004** | **Prescribed regimen** | **PrescribedRegimen** | **CodedSimpleType** | **R** | **[0..1]** | **N** |  |
| **5** | **Prescribe Regimen Type Code** | **REG005** | **Type of prescribed regimen** | **PrescribedRegimenTypeCode** | **CodeType** | **R** | **[0..1]** | **N** | **REGIMEN\_TYPE** |
| **6** | **Prescribe Regimen Line Code** | **REG006** | **Prescribed regimen line** | **PrescribedRegimenLineCode** | **CodeType** | **O** | **[0..1]** | **N** | **REGIMEN\_LINE** |
| **7** | **Prescribe Regimen Duration** | **REG007** | **Duration of prescribed regimen** | **PrescribedRegimenDuration** | **CodeType** | **R** | **[0..1]** | **N** | Note: While defined as a CodeType, developers should use this fields to pass the number of days that a regimen was prescribed.  For example, if 30 days, the field would contain 30 |
| **8** | **Prescribe Regimen Dispense Date** | **REG008** | **Prescribed regimen dispensed date** | **PrescribedRegimenDispensedDate** | **date** | **R** | **[0..1]** | **N** |  |
| **9** | **Date Regimen Started** | **REG009** | **Date regimen started** | **DateRegimenStarted** | **date** | **O** | **[0..1]** | **N** |  |
| **10** | **Date Regimen Started DD** | **REG010** | **Date regimen started DD** | **DateRegimenStartedDD** | **StringType** | **O** | **[0..1]** | **N** |  |
| **11** | **Date Regimen Started MM** | **REG011** | **Date regimen started MM** | **DateRegimenStartedMM** | **StringType** | **O** | **[0..1]** | **N** |  |
| **12** | **Date Regimen Started YYYY** | **REG012** | **Date regimen started YYYY** | **DateRegimenStartedYYYY** | **StringType** | **O** | **[0..1]** | **N** |  |
| **13** | **Date Regimen Ended** | **REG013** | **Date regimen ended** | **DateRegimenEnded** | **date** | **O** | **[0..1]** | **N** |  |
| **14** | **Date Regimen Ended DD** | **REG014** | **Date regimen ended DD** | **DateRegimenEndedDD** | **StringType** | **O** | **[0..1]** | **N** |  |
| **15** | **Date Regimen Ended MM** | **REG015** | **Date regimen ended MM** | **DateRegimenEndedMM** | **StringType** | **O** | **[0..1]** | **N** |  |
| **16** | **Date Regimen Ended YYYY** | **REG016** | **Date regimen ended YYYY** | **DateRegimenEndedYYYY** | **StringType** | **O** | **[0..1]** | **N** |  |
| **17** | **Prescribe Regimen Initial Indicator** | **REG017** | **Is this the initial regimen prescribed** | **PrescribedRegimenInitialIndicator** | **boolean** | **O** | **[0..1]** | **N** |  |
| **18** | **Prescribe Regimen Current Indicator** | **REG018** | **Is this the current regimen prescribed** | **PrescribedRegimenCurrentIndicator** | **boolean** | **O** | **[0..\*]** | **N** |  |
| **19** | **Type Of Previous Exposure Code** | **REG019** | **Type of previous exposure** | **TypeOfPreviousExposureCode** | **CodeType** | **O** | **[0..\*]** | **N** | **PRIOR\_ART** |
| **20** | **Poor Adherence Indicator** | **REG020** | **Is poor adherence noted?** | **PoorAdherenceIndicator** | **boolean** | **O** | **[0..1]** | **N** |  |
| **21** | **Reason For Poor Adherence** | **REG021** | **Reason for Poor adherance** | **ReasonForPoorAdherence** | **CodeType** | **O** | **[0..1]** | **N** | **ADHERANCE\_POORFAIR\_REASON** |
| **22** | **Reason Regimen Ended Code** | **REG022** | **Reason Regimen Ended** | **ReasonRegimenEndedCode** | **CodeType** | **O** | **[0..1]** | **N** | **REGIMEN\_STOP** |
| **23** | **Substitution Indicator** | **REG023** | **Substitution Indicator** | **SubstitutionIndicator** | **boolean** | **O** | **[0..1]** | **N** |  |
| **24** | **Switch Indicator** | **REG024** | **Switch Indicator** | **SwitchIndicator** | **boolean** | **O** | **[0..1]** | **N** |  |

**Sample XML**

<Regimen>

<VisitID>5468</VisitID>

<VisitDate>2015-01-10</VisitDate>

<ReasonForRegimenSwitchSubs>string</ReasonForRegimenSwitchSubs>

<PrescribedRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>ART</PrescribedRegimenTypeCode>

<PrescribedRegimenLineCode>10</PrescribedRegimenLineCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2015-01-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>01</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2015</DateRegimenStartedYYYY>

<DateRegimenEnded>2015-02-10</DateRegimenEnded>

<DateRegimenEndedDD>10</DateRegimenEndedDD>

<DateRegimenEndedMM>02</DateRegimenEndedMM>

<DateRegimenEndedYYYY>2015</DateRegimenEndedYYYY>

<PrescribedRegimenInitialIndicator>false</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true</PrescribedRegimenCurrentIndicator>

<TypeOfPreviousExposureCode>N</TypeOfPreviousExposureCode>

<PoorAdherenceIndicator>true</PoorAdherenceIndicator>

<ReasonForPoorAdherence>8</ReasonForPoorAdherence>

<ReasonRegimenEndedCode>6</ReasonRegimenEndedCode>

<SubstitutionIndicator>false</SubstitutionIndicator>

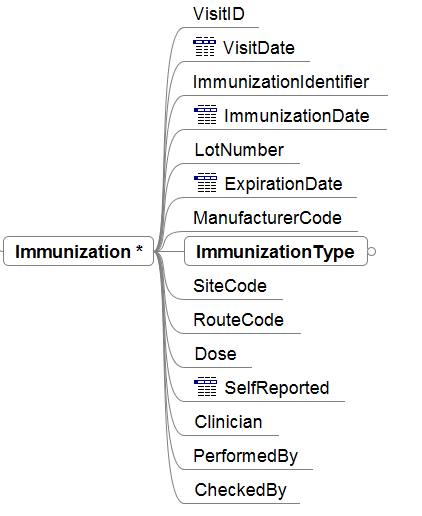
<SwitchIndicator>false</SwitchIndicator>

</Regimen>

### Immunization

One or more immunizations can be provided in the Immunization.

**It is important to note that for Version 1.2 and higher of the NDR Schema that Immunizations can be transmitted, however they will not be parsed into the Transactional or Repository databases.**



| Immunization | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seq | Field Name | Field Identifier | Purpose | XML Element | DT | Use | Occurs | Enum | Value Set / Notes |
| **1** | **Visit ID** | **VAC001** | **The identification code or number used to uniquely identify the clinical visit** | **VisitID** | **StringType** | **R** | **[1..1]** | **N** |  |
| **2** | **Visit Date** | **VAC002** | **Visit date applies to all outpatient encounter data for that date.** | **VisitDate** | **date** | **R** | **[1..1]** | **N** |  |
| **3** | **Immunization Identifier** | **VAC003** | **Immunization identifier number** | **ImmunizationIdentifier** | **StringType** | **O** | **[1..1]** | **N** |  |
| **4** | **Immunization Date** | **VAC004** | **Date of immunization** | **ImmunizationDate** | **date** | **O** | **[0..1]** | **N** |  |
| **5** | **Lot Number** | **VAC005** | **Lot number** | **LotNumber** | **StringType** | **O** | **[0..1]** | **N** |  |
| **6** | **Expiration Date** | **VAC006** | **Expiration date** | **ExpirationDate** | **date** | **O** | **[0..1]** | **N** |  |
| **7** | **Manufacturer Code** | **VAC007** | **Manufacturer code** | **ManufacturerCode** | **StringType** | **O** | **[0..1]** | **N** |  |
| **8** | **Immunization Type** | **VAC008** | **Type of immunization given** | **ImmunizationType** | **CodedSimpleType** | **R** | **[1..1]** | **N** | **VACCINE\_TYPE** |
| **9** | **Site Code** | **VAC009** | **Site of immunization administration** | **SiteCode** | **CodeType** | **O** | **[0..1]** | **N** | **VACCINE\_SITE** |
| **10** | **Route Code** | **VAC010** | **Route of Immunization** | **RouteCode** | **CodeType** | **O** | **[0..1]** | **N** | **VACCINE\_ADMINISTER** |
| **11** | **Dose** | **VAC011** | **Dose** | **Dose** | **StringType** | **O** | **[0..1]** | **N** |  |
| **12** | **Self Reported** | **VAC012** | **Is this immunization record self reported?** | **SelfReported** | **boolean** | **O** | **[0..1]** | **N** |  |
| **13** | **Clinician** | **VAC013** | **Clinician** | **Clinician** | **StringType** | **O** | **[0..1]** | **N** |  |
| **14** | **Performed By** | **VAC014** | **Performed by** | **PerformedBy** | **StringType** | **O** | **[0..1]** | **N** |  |
| **15** | **Checked By** | **VAC015** | **Checked by** | **CheckedBy** | **StringType** | **O** | **[0..1]** | **N** |  |

**Sample XML**

<Immunization>

<VisitID>98702</VisitID>

<VisitDate>2014-11-22</VisitDate>

<ImmunizationIdentifier>vac21654</ImmunizationIdentifier>

<ImmunizationDate>2014-11-22</ImmunizationDate>

<LotNumber>98184</LotNumber>

<ExpirationDate>2015-10-24</ExpirationDate>

<ManufacturerCode>BAY</ManufacturerCode>

<ImmunizationType>

<Code>138</Code>

<CodeDescTxt>Td (adult)</CodeDescTxt>

</ImmunizationType>

<SiteCode>LA</SiteCode>

<RouteCode>IM</RouteCode>

<Dose>0.5 mL</Dose>

<SelfReported>false</SelfReported>

<Clinician>Clinician Name</Clinician>

<PerformedBy>Performedby Name</PerformedBy>

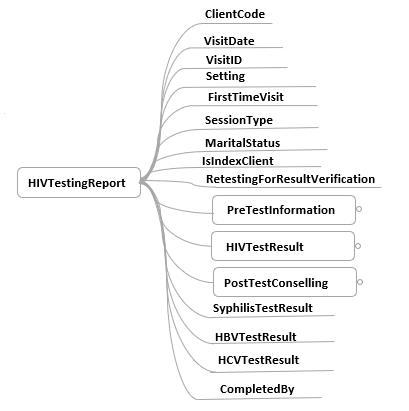
<CheckedBy>Checkedby Name</CheckedBy>

</Immunization>

**3.1.16   HIV Testing Report**

**The HIV Testing Report is utilized to capture detailed information of the patient’s HIV test. The HIV Test Report generally follows the client intake form of the National forms.**

**It is important to note that for matching purposes, the NDR will utilize the Client Code to determine if a client currently exists in the NDR**



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HIV Testing Report** | | | | | | | | |
| **Field Name** | **Field Identifier** | **Purpose** | **XML Element** | **DT** | **Use** | **Occurs** | **Enum** | **Value Set / Notes** |
| **Client code** | **N/A** | **Client code for HTS** | **ClientCode** | **string** | **R** | **[1..1]** | **N** |  |
| **Visit Date** | **N/A** | **Visit date applies to all encounter data for that date.** | **VisitDate** | **date** | **R** | **[1..1]** | **N** |  |
| **Visit ID** | **N/A** | **The identification code or number used to uniquely identify the clinical visit** | **VisitID** | **string** | **R** | **[1  1]** | **N** |  |
| **Settings** | **N/A** | **HIV testing setting** | **setting** | **CodeType** | **R** | **[1..1]** | **Y** |  |
| **First time visit** | **N/A** | **Patient first time visit** | **FirstTimeVisit** | **CodeType** | **R** | **[1  1]** | **Y** |  |
| **Session type** | **N/A** | **Type of session** | **SessionType** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **Referred from** | **N/A** | **Where Patient is referred from** | **ReferredFrom** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **Marital status** | **N/A** | **Marital status** | **MaritalStatus** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **Number of children less than 5** | **N/A** | **Number of children owned by client** | **NoOfOwnChildrenLessThan5Years** | **int** | **O** | **[0..1]** | **N** |  |
| **Number of wives** | **N/A** | **Number of wives client have** | **NoOfAllWives** | **int** | **O** | **[0..1]** | **N** |  |
| **Is index client** | **N/A** | **Is client an index client** | **IsIndexClient** | **StringType** | **O** | **[0..1]** | **Y** |  |
| **Index Client ID** | **N/A** | **ID of Index client** | **IndexClientId** | **StringType** | **O** | **[0..1]** | **N** |  |
| **Retesting for result verification** | **N/A** | **Is client testing for result verification** | **ReTestingForResultVerification** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **Pretest Information** | **N/A** | **Client pretest information** | **PreTestInformation** | **PreTestInformationType** | **O** | **[0..1]** | **N** |  |
| **HIV result** | **N/A** | **Client HIV result** | **HIVTestResult** | **HIVTestResultType** | **O** | **[0..1]** | **N** |  |
| **Posttest counselling** | **N/A** | **Client post test counselling** | **PostTestCounselling** | **PostTestCounsellingType** | **O** | **[0..1]** | **N** |  |
| **Syphilis test result** | **N/A** | **Client Syphilis test result** | **SyphilisTestResult** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **HBV test result** | **N/A** | **Client HBV test result** | **HBVTestResult** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **HCV test result** | **N/A** | **Client HCV test result** | **HCVTestResult** | **CodeType** | **O** | **[0..1]** | **Y** |  |
| **Index notification services** | **N/A** | **Index notification services** | **IndexNotificationServices** | **IndexNotificationServicesType** | **O** | **[0..1]** | **N** |  |
| **Completed by** | **N/A** | **Clinician that completed the test** | **CompletedBy** | **StringType** | **O** | **[0..1]** | **N** |  |
| **Date completed** | **N/A** | **Completion date** | **DateCompleted** | **StringType** | **O** | **[0..1]** | **N** |  |

**Sample XML**

**<HIVTestingReport>**

**<ClientCode>HTS780934</ClientCode>**

**<VisitDate>2020-03-20</VisitDate>**

**<VisitID>347949</VisitID>**

**<FirstTimeVisit>N</FirstTimeVisit>**

**<SessionType>1</SessionType>**

**<MaritalStatus>S</MaritalStatus>**

**<IsIndexClient>N</IsIndexClient>**

**<ReTestingForResultVerification>N</ReTestingForResultVerification>**

**<PreTestInformation>**

**…**

**</PreTestInformation>**

**<HIVTestResult>**

**…**

**</HIVTestResult>**

**<PostTestCounselling>**

**…**

**</PostTestCounselling>**

**<SyphilisTestResult>R</SyphilisTestResult>**

**<HBVTestResult>Pos</HBVTestResult>**

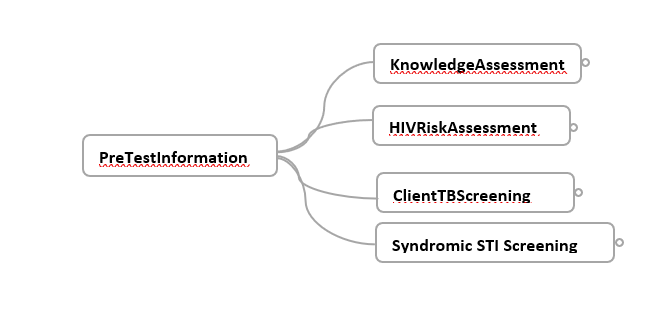
**<HCVTestResult>Pos</HCVTestResult>**

**<CompletedBy>Super User</CompletedBy>**

**</HIVTestingReport>**

**3.1.17   Pretest Information**

**This element contains pre-test information of the client spanning across knowledge assessment, HIV risk assessment, Client TB screening and Syndromic STI screening as captured in the client intake form of the national forms.**



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Pretest Information** | | | | | | | | |
| **Field Name** | **Field Identifier** | **Purpose** | **XML Element** | **DT** | **Use** | **Occurs** | **Enum** | **Value Set / Notes** |
| **Knowledge Assessment** | **N/A** | **Client Knowledge Assessment** | **KnowledgeAssessment** | **KnowledgeAssessmentType** | **O** | **[0..1]** | **N** |  |
| **HIV Risk Assessment** | **N/A** | **Client Risk Assessment** | **HIVRiskAssessment** | **HIVRiskAssessmentType** | **O** | **[0..1]** | **N** |  |
| **Client TB Screening** | **N/A** | **Client Screening for TB** | **ClinicalTBScreening** | **ClinicalTBScreeningType** | **O** | **[0..1]** | **N** |  |
| **Syndromic STI Screening** | **N/A** | **Syndromic STI Screening** | **SyndromicSTIScreening** | **SyndromicSTIScreeningType** | **O** | **[0..1]** | **N** |  |

**<PreTestInformation >**

**<KnowledgeAssessment>**

**…**

**</KnowledgeAssessment>**

**<HIVRiskAssessment>**

**…**

**</HIVRiskAssessment>**

**<ClinicalTBScreening>**

**…**

**</ClinicalTBScreening>**

**<SyndromicSTIScreening>**

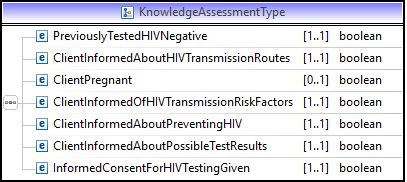
**…**

**</SyndromicSTIScreening>**

**</PreTestInformation>**

**3.1.17.1   Knowledge Assessment**

**This element contains assessment question on client’s knowledge about HIV transmission methods, how to prevent it, types of HIV results among others as captured in the client intake form.**



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Knowledge Assessment** | | | | | | | | |
| **Field Name** | **Field Identifier** | **Purpose** | **XML Element** | **DT** | **Use** | **Occurs** | **Enum** | **Value Set / Notes** |
| **Previously Tested HIV Negative** | **N/A** | **To know if a client had a negative result in thier first test** | **PreviouslyTestedHIVNegative** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Client Informed About HIV Transmission Routes** | **N/A** | **To ensure client is informed of possible transmission routes for HIV** | **ClientInformedAboutHIVTransmissionRoutes** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Client Pregnant** | **N/A** | **To know if a client should be considered for PMTCT program** | **ClientPregnant** | **Boolean** | **O** | **[0..1]** | **N** |  |
| **Client Informed About Preventing HIV** | **N/A** | **To ensure a client is informed on how to prevent HIV** | **ClientInformedAboutPreventingHIV** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Client Informed About Possible Test Results** | **N/A** | **To ensure client is told what HIV results are available** | **ClientInformedAboutPossibleTestResults** | **Boolean** |  | **[1..1]** | **N** |  |
| **Informed Consent For HIV Testing Given** | **N/A** | **To confirm that client’s informed consent was sought before the test** | **InformedConsentForHIVTestingGiven** | **Boolean** |  | **[1..1]** | **N** |  |



**Sample XML**

**<KnowledgeAssessment>**

**<PreviouslyTestedHIVNegative>true</PreviouslyTestedHIVNegative>**

**<ClientInformedAboutHIVTransmissionRoutes>true</ClientInformedAboutHIVTransmissionRoutes>**

**<ClientPregnant>true</ClientPregnant>**

**<ClientInformedOfHIVTransmissionRiskFactors>true</ClientInformedOfHIVTransmissionRiskFactors>**

**<ClientInformedAboutPreventingHIV>true</ClientInformedAboutPreventingHIV>**

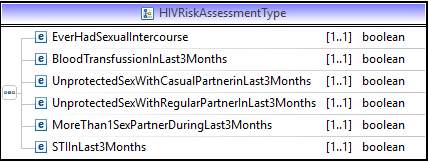
**<ClientInformedAboutPossibleTestResults>true</ClientInformedAboutPossibleTestResults>**

**<InformedConsentForHIVTestingGiven>true</InformedConsentForHIVTestingGiven>**

**</KnowledgeAssessment>**

**3.1.17.2   HIV Risk Assessment**

**This element contains assessment question on client’s exposure to risk factors that could lead to HIV infection as captured in the client intake form.**



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HIV Risk Assessment** | | | | | | | | |
| **Field Name** | **Field Identifier** | **Purpose** | **XML Element** | **DT** | **Use** | **Occurs** | **Enum** | **Value Set / Notes** |
| **Ever Had Sexual Intercourse** | **N/A** | **To know if a client is sexually actived or exposed via sexual intercourse** | **EverHadSexualIntercourse** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Blood Transfusion In Last 3 Months** | **N/A** | **To know if a client had been exposed via blood transfusion in the past 3 months** | **BloodTransfussionInLast3Months** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Unprotected Sex With Casual Partner in Last 3 Months** | **N/A** | **To know if a client had been exposed via unprotected sex with casual partners in the past 3 months** | **UnprotectedSexWithCasualPartnerinLast3Months** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Unprotected Sex With Regular Partner In Last 3 Months** | **N/A** | **To know if a client had been exposed via unprotected sex with regular partner in the past 3 months** | **UnprotectedSexWithRegularPartnerInLast3Months** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **More Than 1 Sex Partner During Last 3 Months** | **N/A** | **To know if a client has various sex partners in the past 3 months** | **MoreThan1SexPartnerDuringLast3Months** | **Boolean** |  | **[1..1]** | **N** |  |
| **STI In Last 3 Months** | **N/A** | **To know if a client had been diagnosed of any sexually transmitted infection in the past 3 months** | **STIInLast3Months** | **Boolean** |  | **[1..1]** | **N** |  |

**Sample XML**

**<HIVRiskAssessment>**

**<EverHadSexualIntercourse>true</EverHadSexualIntercourse>**

**<BloodTransfussionInLast3Months>true</BloodTransfussionInLast3Months>**

**<UnprotectedSexWithCasualPartnerinLast3Months>true</UnprotectedSexWithCasualPartnerinLast3Months>**

**<UnprotectedSexWithRegularPartnerInLast3Months>true</UnprotectedSexWithRegularPartnerInLast3Months>**

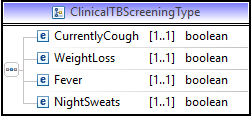
**<MoreThan1SexPartnerDuringLast3Months>true</MoreThan1SexPartnerDuringLast3Months>**

**<STIInLast3Months>true</STIInLast3Months>**

**</HIVRiskAssessment>**

3.1.17.3**Clinical TB Screening**

**This element contains assessment questions to ascertain if a client’s is Tuberculosis symptomatic as captured in the client intake form.**



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Clinical TB Screening** | | | | | | | | |
| **Field Name** | **Field Identifier** | **Purpose** | **XML Element** | **DT** | **Use** | **Occurs** | **Enum** | **Value Set / Notes** |
| **Currently Cough** | **N/A** | **To know if a client has cough at the moment** | **CurrentlyCough** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Weight Loss** | **N/A** | **To know if a client is experiencing weight loss** | **WeightLoss** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Fever** | **N/A** | **To know if a client is feeling feverish** | **Fever** | **Boolean** | **O** | **[1..1]** | **N** |  |
| **Night Sweats** | **N/A** | **To know if a client sweats abnormally at night** | **NightSweats** | **Boolean** | **O** | **[1..1]** | **N** |  |

**Sample XML**

**<ClinicalTBScreening>**

**<CurrentlyCough>true</CurrentlyCough>**

**<WeightLoss>true</WeightLoss>**

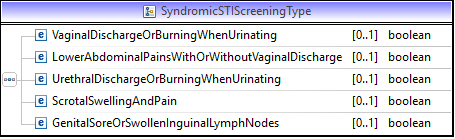
**<Fever>true</Fever>**

**<NightSweats>true</NightSweats>**

**</ClinicalTBScreening>**

3.1.17.4**Syndromic STI Screening**

**This element contains assessment questions to ascertain if a client’s is Tuberculosis symptomatic as captured in the client intake form.**



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Syndromic STI Screening** | | | | | | | | |
| **Field Name** | **Field Identifier** | **Purpose** | **XML Element** | **DT** | **Use** | **Occurs** | **Enum** | **Value Set / Notes** |
| **Vaginal Discharge Or Burning When Urinating** | **N/A** | **To know if a female client is experiencing vaginal discharge or burn when urinating** | **VaginalDischargeOrBurningWhenUrinating** | **Boolean** | **O** | **[0..1]** | **N** |  |
| **Lower Abdominal Pains With Or Without Vaginal Discharge** | **N/A** | **To know if a female client is experiencing abdominal pain** | **LowerAbdominalPainsWithOrWithoutVaginalDischarge** | **Boolean** | **O** | **[0..1]** | **N** |  |
| **Urethral Discharge Or Burning When Urinating** | **N/A** | **To know if a male client is experiencing urethral discharge or burn when urinating** | **UrethralDischargeOrBurningWhenUrinating** | **Boolean** | **O** | **[0..1]** | **N** |  |
| **Scrotal Swelling And Pain** | **N/A** | **To know if a male client is has a swollen scrotum and is experiencing pain** | **ScrotalSwellingAndPain** | **Boolean** | **O** | **[0..1]** | **N** |  |
| **Genital Sore Or Swollen Inguinal Lymph Nodes** | **N/A** | **To know if a male client is has a genital sore or swollen inguinal lymph nodes** | **GenitalSoreOrSwollenInguinalLymphNodes** | **Boolean** | **O** | **[0..1]** | **N** |  |

**Sample XML**

**<SyndromicSTIScreening>**

**<VaginalDischargeOrBurningWhenUrinating>true</VaginalDischargeOrBurningWhenUrinating>**

**<LowerAbdominalPainsWithOrWithoutVaginalDischarge>true</LowerAbdominalPainsWithOrWithoutVaginalDischarge>**

**<UrethralDischargeOrBurningWhenUrinating>true</UrethralDischargeOrBurningWhenUrinating>**

**<ScrotalSwellingAndPain>true</ScrotalSwellingAndPain>**

**<GenitalSoreOrSwollenInguinalLymphNodes>true</GenitalSoreOrSwollenInguinalLymphNodes>**

**</SyndromicSTIScreening>**

**3.1.18   HIV Test Result**

**This element contains …**

**3.1.19   Post Test Counselling**

**This element contains ...**

## Reusable Complex Types

This section defines those complex types that are reusable within the NDR Schema.

| AnswerType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | AnswerCode | CodeType | O | [0..1] |  |  |
| 2 | AnswerDate | date | O | [0..1] |  |  |
| 3 | AnswerDateTime | dateTime | O | [0..1] |  |  |
| 4 | AnswerNumeric | NumericType | O | [0..1] |  |  |
| 5 | AnswerText | StringType | O | [0..1] |  |  |

| CodedSimpleType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | Code | CodeType | R | [1..1] |  |  |
| 2 | CodeDescTxt | StringType | O | [0..1] |  |  |

| CodedType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | Code | CodeType | R | [1..1] |  |  |
| 2 | CodeDescText | StringType | R | [1..1] |  |  |
| 3 | CodeSystemCode | StringType | R | [1..1] |  |  |
| 4 | Text | StringType | O | [0..1] |  |  |

| ConditionSpecificQuestionsType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | HIVQuestionsType | HIVQuestionsType | O | [0..1] |  |  |

| EncountersType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | HIVEncounter | HIVEncounterType | O | [0..\*] |  |  |

| FacilityType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | FacilityName | StringType | R | [1..1] |  |  |
| 2 | FacilityID | StringType | R | [1..1] |  |  |
| 3 | FacilityTypeCode | StringType | R | [1..1] | FACILITY\_TYPE | Is included as an Enumeration |

| IdentifiersType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | Identifier | IdentifierType | R | [1..\*] |  |  |

| IdentifierType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | IDNumber | StringType | R | [1..1] |  |  |
| 2 | IDTypeCode | CodeType | R | [1..1] | IDENTIFIER\_TYPE |  |

| NoteType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | Note | StringType | R | [1..1] |  |  |

| NumericType | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Seq | XML Element | DT | Use | Occurs | Value Set | Notes |
| 1 | ComparatorCode | StringType | O | [0..1] |  |  |
| 2 | Value1 | decimal | R | [1..1] |  |  |
| 3 | SeperatorCode | StringType | O | [0..1] |  |  |
| 4 | Value2 | decimal | O | [0..1] |  |  |
| 5 | Unit | CodedType | O | [0..1] | MEASURE\_UNITS |  |

## Value Sets

Summarized in the figure below, value sets defined in this document are detailed in the **NDR Data Dictionary Workbook** and utilize international standards when available. Where needed, locally defined value sets have been developed in accordance with FMoH tools.



# Message Scenarios and Samples

This section provides sample messages for common scenarios when sending data to NDR. The sample messages documented below, are available as XML files within the NDR Implementation Guide package.



## Scenario 1 – Initial

Patient has initial visit # 259430 on 10 March 2010 and is medically evaluated. The patient is placed on 3 regimens to control HIV and other infections as well as his CD4 is tested:

Laboratory Order / Result 1: CD4 / Numeric Value = 100

Regimen 1: AZT(300mg)+3TC(150mg)+NVP(200mg)

Regimen 2: Cotrimoxazole 480mg

Regimen 3: Ethambuthol/Isoniazid 400/150mg

The XML would have 3 instances of Regimen documenting the three Regimens with each instance having a Visit ID of 259430 and a Visit Date of 10 March 2010.

The XML would have 1 instance of a Laboratory Report will have one instance of a LaboratoryOrderAndResult

**Sample Message**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>INITIAL</MessageStatusCode>

<MessageCreationDateTime>2015-08-26T18:02:50.07</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>4567</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>19283746</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<OtherPatientIdentifiers>

<Identifier>

<IDNumber>678-251-0-1234</IDNumber>

<IDTypeCode>PN</IDTypeCode>

</Identifier>

</OtherPatientIdentifiers>

<PatientDateOfBirth>1976-07-11</PatientDateOfBirth>

<PatientSexCode>M</PatientSexCode>

<PatientDeceasedIndicator>false</PatientDeceasedIndicator>

<PatientPrimaryLanguageCode>ENG</PatientPrimaryLanguageCode>

<PatientEducationLevelCode>3</PatientEducationLevelCode>

<PatientOccupationCode>EMP</PatientOccupationCode>

<PatientMaritalStatusCode>M</PatientMaritalStatusCode>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<WardVillage>Central</WardVillage>

<Town>Abuja</Town>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

<PostalCode>12345</PostalCode>

<OtherAddressInformation>Enter notes about

the address if needed</OtherAddressInformation>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2010-03-30</DateOfFirstReport>

<DateOfLastReport>2010-03-30</DateOfLastReport>

<DiagnosisDate>2010-03-10</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>40</PatientAge>

</CommonQuestions>

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2010-03-10</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Clinic Testing Name</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2010-03-10</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<InitialAdherenceCounselingCompletedDate>2010-03-10

</InitialAdherenceCounselingCompletedDate>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2010-03-10</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>73</WeightAtARTStart>

<FunctionalStatusStartART>W</FunctionalStatusStartART>

<CD4AtStartOfART>100</CD4AtStartOfART>

<PatientHasDied>false</PatientHasDied>

<EnrolledInHIVCareDate>2010-03-10</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

</HIVQuestions>

</ConditionSpecificQuestions>

<Encounters>

<HIVEncounter>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<DurationOnArt>0</DurationOnArt>

<Weight>73</Weight>

<BloodPressure>120/87</BloodPressure>

<PatientFamilyPlanningCode>FP</PatientFamilyPlanningCode>

<PatientFamilyPlanningMethodCode>FP1

</PatientFamilyPlanningMethodCode>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CotrimoxazoleDose>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</CotrimoxazoleDose>

<INHDose>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</INHDose>

<CD4>100</CD4>

<CD4TestDate>2010-03-10</CD4TestDate>

<NextAppointmentDate>2010-04-12</NextAppointmentDate>

</HIVEncounter>

</Encounters>

<LaboratoryReport>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<LaboratoryTestIdentifier>wlk9871</LaboratoryTestIdentifier>

<CollectionDate>2010-03-10</CollectionDate>

<BaselineRepeatCode>B</BaselineRepeatCode>

<ARTStatusCode>P</ARTStatusCode>

<LaboratoryOrderAndResult>

<OrderedTestDate>2010-03-10</OrderedTestDate>

<LaboratoryResultedTest>

<Code>11</Code>

<CodeDescTxt>CD4</CodeDescTxt>

</LaboratoryResultedTest>

<LaboratoryResult>

<AnswerNumeric>

<Value1>100</Value1>

</AnswerNumeric>

</LaboratoryResult>

<ResultedTestDate>2010-03-10</ResultedTestDate>

</LaboratoryOrderAndResult>

<Clinician>Clinician Name</Clinician>

<ReportedBy>Reporter Name</ReportedBy>

<CheckedBy>Checkedby Name</CheckedBy>

</LaboratoryReport>

<Regimen>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<PrescribedRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>ART</PrescribedRegimenTypeCode>

<PrescribedRegimenLineCode>10</PrescribedRegimenLineCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10

</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>true

</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true

</PrescribedRegimenCurrentIndicator>

<TypeOfPreviousExposureCode>N</TypeOfPreviousExposureCode>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

<Regimen>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<PrescribedRegimen>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>CTX</PrescribedRegimenTypeCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10

</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>true

</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true

</PrescribedRegimenCurrentIndicator>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

<Regimen>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<PrescribedRegimen>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>TB</PrescribedRegimenTypeCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>true</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true</PrescribedRegimenCurrentIndicator>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

</Condition>

</IndividualReport>

</Container>

## Scenario 2 – Update

The same patient from Scenario 1 has update visit # 261100 on 12 April 2010. The HIV regimen is renewed. His CD4 is tested:

Laboratory Order / Result 1: CD4 / Numeric Value = 110

Regimen 1: AZT(300mg)+3TC(150mg)+NVP(200mg)

The XML would have one new instance of Regimen documenting the regimen renewal.  Each instance would have a Visit ID of 261100 and a Visit Date of 12 April 2010.

The XML would have 1 instance of LaboratoryReport will have a new instance of LaboratoryOrderAndResult

**Sample Message**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>UPDATED</MessageStatusCode>

<MessageCreationDateTime>2015-09-08T16:18:36.12</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>4567</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>19283746</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<OtherPatientIdentifiers>

<Identifier>

<IDNumber>678-251-0-1234</IDNumber>

<IDTypeCode>PN</IDTypeCode>

</Identifier>

</OtherPatientIdentifiers>

<PatientDateOfBirth>1976-07-11</PatientDateOfBirth>

<PatientSexCode>M</PatientSexCode>

<PatientDeceasedIndicator>false</PatientDeceasedIndicator>

<PatientPrimaryLanguageCode>ENG</PatientPrimaryLanguageCode>

<PatientEducationLevelCode>3</PatientEducationLevelCode>

<PatientOccupationCode>EMP</PatientOccupationCode>

<PatientMaritalStatusCode>M</PatientMaritalStatusCode>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<WardVillage>Central</WardVillage>

<Town>Abuja</Town>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

<PostalCode>12345</PostalCode>

<OtherAddressInformation>Enter notes about the address

if needed</OtherAddressInformation>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2010-03-30</DateOfFirstReport>

<DateOfLastReport>2010-03-30</DateOfLastReport>

<DiagnosisDate>2010-03-10</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>40</PatientAge>

</CommonQuestions>

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2010-03-10</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Clinic Testing Name</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2010-03-10</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<InitialAdherenceCounselingCompletedDate>2010-03-10

</InitialAdherenceCounselingCompletedDate>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2010-03-10</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>73</WeightAtARTStart>

<FunctionalStatusStartART>W</FunctionalStatusStartART>

<CD4AtStartOfART>100</CD4AtStartOfART>

<PatientHasDied>false</PatientHasDied>

<EnrolledInHIVCareDate>2010-03-10</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

</HIVQuestions>

</ConditionSpecificQuestions>

<Encounters>

<HIVEncounter>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<DurationOnArt>0</DurationOnArt>

<Weight>73</Weight>

<BloodPressure>120/87</BloodPressure>

<PatientFamilyPlanningCode>FP</PatientFamilyPlanningCode>

<PatientFamilyPlanningMethodCode>FP1</PatientFamilyPlanningMethodCode>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CotrimoxazoleDose>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</CotrimoxazoleDose>

<INHDose>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</INHDose>

<CD4>100</CD4>

<CD4TestDate>2010-03-10</CD4TestDate>

<NextAppointmentDate>2010-04-12</NextAppointmentDate>

</HIVEncounter>

<HIVEncounter>

<VisitID>261100</VisitID>

<VisitDate>2010-04-12</VisitDate>

<DurationOnArt>1</DurationOnArt>

<Weight>73</Weight>

<BloodPressure>135/85</BloodPressure>

<PatientFamilyPlanningCode>FP</PatientFamilyPlanningCode>

<PatientFamilyPlanningMethodCode>FP1</PatientFamilyPlanningMethodCode>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CD4>110</CD4>

<CD4TestDate>2010-04-12</CD4TestDate>

<NextAppointmentDate>2010-05-11</NextAppointmentDate>

</HIVEncounter>

</Encounters>

<LaboratoryReport>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<LaboratoryTestIdentifier>wlk9871</LaboratoryTestIdentifier>

<CollectionDate>2010-03-10</CollectionDate>

<BaselineRepeatCode>B</BaselineRepeatCode>

<ARTStatusCode>P</ARTStatusCode>

<LaboratoryOrderAndResult>

<OrderedTestDate>2010-03-10</OrderedTestDate>

<LaboratoryResultedTest>

<Code>11</Code>

<CodeDescTxt>CD4</CodeDescTxt>

</LaboratoryResultedTest>

<LaboratoryResult>

<AnswerNumeric>

<Value1>100</Value1>

</AnswerNumeric>

</LaboratoryResult>

<ResultedTestDate>2010-03-10</ResultedTestDate>

</LaboratoryOrderAndResult>

<Clinician>Clinician Name</Clinician>

<ReportedBy>Reporter Name</ReportedBy>

<CheckedBy>Checkedby Name</CheckedBy>

</LaboratoryReport>

<LaboratoryReport>

<VisitID>259430</VisitID>

<VisitDate>2010-04-12</VisitDate>

<LaboratoryTestIdentifier>wlk99456</LaboratoryTestIdentifier>

<CollectionDate>2010-04-12</CollectionDate>

<BaselineRepeatCode>B</BaselineRepeatCode>

<ARTStatusCode>P</ARTStatusCode>

<LaboratoryOrderAndResult>

<OrderedTestDate>2010-04-12</OrderedTestDate>

<LaboratoryResultedTest>

<Code>11</Code>

<CodeDescTxt>CD4</CodeDescTxt>

</LaboratoryResultedTest>

<LaboratoryResult>

<AnswerNumeric>

<Value1>110</Value1>

</AnswerNumeric>

</LaboratoryResult>

<ResultedTestDate>2010-04-12</ResultedTestDate>

</LaboratoryOrderAndResult>

<Clinician>Clinician Name</Clinician>

<ReportedBy>Reporter Name</ReportedBy>

<CheckedBy>Checkedby Name</CheckedBy>

</LaboratoryReport>

<Regimen>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<PrescribedRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>ART</PrescribedRegimenTypeCode>

<PrescribedRegimenLineCode>10</PrescribedRegimenLineCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>true</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true</PrescribedRegimenCurrentIndicator>

<TypeOfPreviousExposureCode>N</TypeOfPreviousExposureCode>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

<Regimen>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<PrescribedRegimen>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>CTX</PrescribedRegimenTypeCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>true</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true</PrescribedRegimenCurrentIndicator>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

<Regimen>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<PrescribedRegimen>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>TB</PrescribedRegimenTypeCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-03-10</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>true</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true</PrescribedRegimenCurrentIndicator>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

<Regimen>

<VisitID>261100</VisitID>

<VisitDate>2010-04-12</VisitDate>

<PrescribedRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</PrescribedRegimen>

<PrescribedRegimenTypeCode>ART</PrescribedRegimenTypeCode>

<PrescribedRegimenLineCode>10</PrescribedRegimenLineCode>

<PrescribedRegimenDuration>30</PrescribedRegimenDuration>

<PrescribedRegimenDispensedDate>2010-04-12</PrescribedRegimenDispensedDate>

<DateRegimenStarted>2010-03-10</DateRegimenStarted>

<DateRegimenStartedDD>10</DateRegimenStartedDD>

<DateRegimenStartedMM>03</DateRegimenStartedMM>

<DateRegimenStartedYYYY>2010</DateRegimenStartedYYYY>

<PrescribedRegimenInitialIndicator>false</PrescribedRegimenInitialIndicator>

<PrescribedRegimenCurrentIndicator>true</PrescribedRegimenCurrentIndicator>

<SubstitutionIndicator>false</SubstitutionIndicator>

<SwitchIndicator>false</SwitchIndicator>

</Regimen>

</Condition>

</IndividualReport>

</Container>

## Scenario 3 - Redact

The message from Scenario 1 is later needing to be redacted. The previously submitted message is included, with only the MessageStatusCode changed to REDACTED.

**Sample Message**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>REDACTED</MessageStatusCode>

<MessageCreationDateTime>2015-09-09T18:20:22.42</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>4567</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>19283746</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<OtherPatientIdentifiers>

<Identifier>

<IDNumber>678-251-0-1234</IDNumber>

<IDTypeCode>PN</IDTypeCode>

</Identifier>

</OtherPatientIdentifiers>

<PatientDateOfBirth>1976-07-11</PatientDateOfBirth>

<PatientSexCode>M</PatientSexCode>

<PatientDeceasedIndicator>false</PatientDeceasedIndicator>

<PatientPrimaryLanguageCode>ENG</PatientPrimaryLanguageCode>

<PatientEducationLevelCode>3</PatientEducationLevelCode>

<PatientOccupationCode>EMP</PatientOccupationCode>

<PatientMaritalStatusCode>M</PatientMaritalStatusCode>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<WardVillage>Central</WardVillage>

<Town>Abuja</Town>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

<PostalCode>12345</PostalCode>

<OtherAddressInformation>Enter notes about the address

if needed</OtherAddressInformation>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2010-03-30</DateOfFirstReport>

<DateOfLastReport>2010-03-30</DateOfLastReport>

<DiagnosisDate>2010-03-10</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>40</PatientAge>

</CommonQuestions>

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2010-03-10</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Clinic Testing Name</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2010-03-10</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<InitialAdherenceCounselingCompletedDate>2010-03-10

</InitialAdherenceCounselingCompletedDate>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2010-03-10</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>73</WeightAtARTStart>

<FunctionalStatusStartART>W</FunctionalStatusStartART>

<CD4AtStartOfART>100</CD4AtStartOfART>

<PatientHasDied>false</PatientHasDied>

<EnrolledInHIVCareDate>2010-03-10</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

</HIVQuestions>

</ConditionSpecificQuestions>

<Encounters>

<HIVEncounter>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<DurationOnArt>0</DurationOnArt>

<Weight>73</Weight>

<BloodPressure>120/87</BloodPressure>

<PatientFamilyPlanningCode>FP</PatientFamilyPlanningCode>

<PatientFamilyPlanningMethodCode>FP1

</PatientFamilyPlanningMethodCode>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CotrimoxazoleDose>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</CotrimoxazoleDose>

<INHDose>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</INHDose>

<CD4>100</CD4>

<CD4TestDate>2010-03-10</CD4TestDate>

<NextAppointmentDate>2010-04-12</NextAppointmentDate>

</HIVEncounter>

</Encounters>

</Condition>

</IndividualReport>

</Container>

## Scenario 4 – Documented Transfer

Patient has initial visit # 9137 on 2 September 2014 at Central Medical Center and is medically evaluated. The patient is placed on 1 regimen to control HIV his CD4 is tested:

Laboratory Order / Result 1: CD4 / Numeric Value = 162

Regimen 1: AZT(300mg)+3TC(150mg)+NVP(200mg)

Patient then goes to Main Hospital Clinic on 10 October and indicates he wants to transfer there, bringing with him his Patient ID from Central Medical Center. He has initial visit #10111, his CD4 is tested and receives the same regimen on this date.

Laboratory Order / Result 1: CD4 / Numeric Value = 178

Regimen 1: AZT(300mg)+3TC(150mg)+NVP(200mg)

**Sample Message – Center Medical Center (Orginial Treatment Facility)**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>INITIAL</MessageStatusCode>

<MessageCreationDateTime>2014-09-09T14:10:22.42</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>3219887</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>abd987</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<PatientDateOfBirth>1971-05-15</PatientDateOfBirth>

<PatientSexCode>M</PatientSexCode>

<PatientDeceasedIndicator>false</PatientDeceasedIndicator>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2014-09-09</DateOfFirstReport>

<DateOfLastReport>2014-09-09</DateOfLastReport>

<DiagnosisDate>2014-09-02</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>44</PatientAge>

</CommonQuestions>

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2014-08-30</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Local Testing Clinic</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2014-09-02</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2014-09-02</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>78</WeightAtARTStart>

<FunctionalStatusStartART>W</FunctionalStatusStartART>

<CD4AtStartOfART>162</CD4AtStartOfART>

<PatientHasDied>false</PatientHasDied>

<EnrolledInHIVCareDate>2014-09-02</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

</HIVQuestions>

</ConditionSpecificQuestions>

<Encounters>

<HIVEncounter>

<VisitID>9137</VisitID>

<VisitDate>2014-09-02</VisitDate>

<DurationOnArt>0</DurationOnArt>

<Weight>78</Weight>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CD4>162</CD4>

<CD4TestDate>2014-09-02</CD4TestDate>

<NextAppointmentDate>2014-10-06</NextAppointmentDate>

</HIVEncounter>

</Encounters>

</Condition>

</IndividualReport>

</Container>

**Sample Message – Main Hospital Clinic (As a Transfer In to new Treatment Facility)**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>INITIAL</MessageStatusCode>

<MessageCreationDateTime>2014-10-28T20:18:08.10</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>II9584</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Implementing Partner OrganizationvName</FacilityName>

<FacilityID>789147</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>pa982178</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Main Hospital Clinic</FacilityName>

<FacilityID>025YA987</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<PatientDateOfBirth>1971-05-15</PatientDateOfBirth>

<PatientSexCode>M</PatientSexCode>

<PatientDeceasedIndicator>false</PatientDeceasedIndicator>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>987645</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2014-10-28</DateOfFirstReport>

<DateOfLastReport>2014-10-28</DateOfLastReport>

<DiagnosisDate>2014-09-02</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>44</PatientAge>

</CommonQuestions>

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2014-08-30</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Local Testing Clinic</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2014-09-02</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<TransferredInDate>2014-10-10</TransferredInDate>

<TransferredInFrom>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TransferredInFrom>

<TransferredInFromPatId>abd987</TransferredInFromPatId>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2014-09-02</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>78</WeightAtARTStart>

<FunctionalStatusStartART>W</FunctionalStatusStartART>

<CD4AtStartOfART>144</CD4AtStartOfART>

<PatientHasDied>false</PatientHasDied>

<EnrolledInHIVCareDate>2014-09-02</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

</HIVQuestions>

</ConditionSpecificQuestions>

<Encounters>

<HIVEncounter>

<VisitID>10111</VisitID>

<VisitDate>2014-10-10</VisitDate>

<DurationOnArt>1</DurationOnArt>

<Weight>76</Weight>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CD4>178</CD4>

<CD4TestDate>2014-10-10</CD4TestDate>

<NextAppointmentDate>2014-11-14</NextAppointmentDate>

</HIVEncounter>

</Encounters>

</Condition>

</IndividualReport>

</Container>

## Scenario 5 – Multiple Conditions

The patient from Scenario 1 is also diagnosed with Malaria during the initial visit. A second Condition element is included to provide information about the Malaria diagnosis.

**Sample Message**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>INITIAL</MessageStatusCode>

<MessageCreationDateTime>2015-08-26T18:02:50.07</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>4567</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>19283746</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

<OtherPatientIdentifiers>

<Identifier>

<IDNumber>678-251-0-1234</IDNumber>

<IDTypeCode>PN</IDTypeCode>

</Identifier>

</OtherPatientIdentifiers>

<PatientDateOfBirth>1976-07-11</PatientDateOfBirth>

<PatientSexCode>M</PatientSexCode>

<PatientDeceasedIndicator>false</PatientDeceasedIndicator>

<PatientPrimaryLanguageCode>ENG</PatientPrimaryLanguageCode>

<PatientEducationLevelCode>3</PatientEducationLevelCode>

<PatientOccupationCode>EMP</PatientOccupationCode>

<PatientMaritalStatusCode>M</PatientMaritalStatusCode>

<StateOfNigeriaOriginCode>15</StateOfNigeriaOriginCode>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<WardVillage>Central</WardVillage>

<Town>Abuja</Town>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

<PostalCode>12345</PostalCode>

<OtherAddressInformation>Enter notes about the address

if needed</OtherAddressInformation>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2010-03-30</DateOfFirstReport>

<DateOfLastReport>2010-03-30</DateOfLastReport>

<DiagnosisDate>2010-03-10</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>40</PatientAge>

</CommonQuestions>

<ConditionSpecificQuestions>

<HIVQuestions>

<CareEntryPoint>3</CareEntryPoint>

<FirstConfirmedHIVTestDate>2010-03-10</FirstConfirmedHIVTestDate>

<FirstHIVTestMode>HIVAb</FirstHIVTestMode>

<WhereFirstHIVTest>Clinic Testing Name</WhereFirstHIVTest>

<PriorArt>N</PriorArt>

<MedicallyEligibleDate>2010-03-10</MedicallyEligibleDate>

<ReasonMedicallyEligible>3</ReasonMedicallyEligible>

<InitialAdherenceCounselingCompletedDate>2010-03-10

</InitialAdherenceCounselingCompletedDate>

<FirstARTRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</FirstARTRegimen>

<ARTStartDate>2010-03-10</ARTStartDate>

<WHOClinicalStageARTStart>3</WHOClinicalStageARTStart>

<WeightAtARTStart>73</WeightAtARTStart>

<FunctionalStatusStartART>W</FunctionalStatusStartART>

<CD4AtStartOfART>100</CD4AtStartOfART>

<PatientHasDied>false</PatientHasDied>

<EnrolledInHIVCareDate>2010-03-10</EnrolledInHIVCareDate>

<InitialTBStatus>2</InitialTBStatus>

</HIVQuestions>

</ConditionSpecificQuestions>

<Encounters>

<HIVEncounter>

<VisitID>259430</VisitID>

<VisitDate>2010-03-10</VisitDate>

<DurationOnArt>0</DurationOnArt>

<Weight>73</Weight>

<BloodPressure>120/87</BloodPressure>

<PatientFamilyPlanningCode>FP</PatientFamilyPlanningCode>

<PatientFamilyPlanningMethodCode>FP1</PatientFamilyPlanningMethodCode>

<FunctionalStatus>W</FunctionalStatus>

<WHOClinicalStage>3</WHOClinicalStage>

<TBStatus>2</TBStatus>

<ARVDrugRegimen>

<Code>1b</Code>

<CodeDescTxt>AZT-3TC-NVP</CodeDescTxt>

</ARVDrugRegimen>

<CotrimoxazoleDose>

<Code>CTX480</Code>

<CodeDescTxt>Cotrimoxazole 480mg</CodeDescTxt>

</CotrimoxazoleDose>

<INHDose>

<Code>HE</Code>

<CodeDescTxt>Isoniazid-Ethambutol</CodeDescTxt>

</INHDose>

<CD4>100</CD4>

<CD4TestDate>2010-03-10</CD4TestDate>

<NextAppointmentDate>2010-04-12</NextAppointmentDate>

</HIVEncounter>

</Encounters>

</Condition>

<Condition>

<ConditionCode>61462000</ConditionCode>

<ProgramArea>

<ProgramAreaCode>OTH</ProgramAreaCode>

</ProgramArea>

<PatientAddress>

<AddressTypeCode>H</AddressTypeCode>

<WardVillage>Central</WardVillage>

<Town>Abuja</Town>

<LGACode>236</LGACode>

<StateCode>15</StateCode>

<CountryCode>NGA</CountryCode>

<PostalCode>12345</PostalCode>

<OtherAddressInformation>Enter notes about the address

if needed</OtherAddressInformation>

</PatientAddress>

<CommonQuestions>

<HospitalNumber>HN0012</HospitalNumber>

<DiagnosisFacility>

<FacilityName>Diagnosing Facility</FacilityName>

<FacilityID>10101</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</DiagnosisFacility>

<DateOfFirstReport>2010-03-30</DateOfFirstReport>

<DateOfLastReport>2010-03-30</DateOfLastReport>

<DiagnosisDate>2010-03-10</DiagnosisDate>

<PatientDieFromThisIllness>false</PatientDieFromThisIllness>

<PatientAge>40</PatientAge>

</CommonQuestions>

</Condition>

</IndividualReport>

</Container>

## Scenario 6 – Required Fields Only

This message contains only the basic required elements and does not convey information describing detailed information about the patient condition.

**Sample Message**

<?xml version="1.0" encoding="utf-8"?>

<Container>

<MessageHeader>

<MessageStatusCode>INITIAL</MessageStatusCode>

<MessageCreationDateTime>2015-08-26T18:02:50.07</MessageCreationDateTime>

<MessageSchemaVersion>1.2</MessageSchemaVersion>

<MessageUniqueID>4567</MessageUniqueID>

<MessageSendingOrganization>

<FacilityName>Fictional Implementing Partner Name</FacilityName>

<FacilityID>3930299292</FacilityID>

<FacilityTypeCode>IP</FacilityTypeCode>

</MessageSendingOrganization>

</MessageHeader>

<IndividualReport>

<PatientDemographics>

<PatientIdentifier>19283746</PatientIdentifier>

<TreatmentFacility>

<FacilityName>Central Medical Centre</FacilityName>

<FacilityID>39383933</FacilityID>

<FacilityTypeCode>FAC</FacilityTypeCode>

</TreatmentFacility>

</PatientDemographics>

<Condition>

<ConditionCode>86406008</ConditionCode>

<ProgramArea>

<ProgramAreaCode>HIV</ProgramAreaCode>

</ProgramArea>

</Condition>

</IndividualReport>

</Container>