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Description automatically generated

**Microservice Specification**

**Consultation ‘Subjective’**

**Statement of Confidentiality**

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1. **Functional Area –Consultation (S)**
   1. **Purpose**

This document describes the Functional and Technical Requirement Specification (BRS) for Consultation service in a primary and specialist care setting. Since consultation service is a complex functional area consisting of multiple smaller service areas, we have divided it into smaller microservices. We have followed the SOAP note (Subjective, Objective, Assessment, Plan) method which is a worldwide adopted method of writing a clinical summary for a patient encounter. This document covers specifications for “Subjective” information which is captured by a Doctor/ Nurse during a patient consultation.

* 1. **Intended Audience**

This document is intended for the Product Engineering team to commence development of ‘Consultation (S)’ microservice and the audience would comprise of

* + 1. Development, Design & Implementation Team which may include Architects, Designers, Developers, and Business Analysts
    2. Key stakeholders in the government at central and state levels
  1. **Overview**

In any clinical setting during a patient consultation, the healthcare provider (Doctor/ Nurse) captures patient’s critical health information which is required to arrive at the diagnosis and treatment plan for a patient. There are various ways or templates available for capturing such information. A SOAP (Subjective, Objective, Assessment & Plan) note in consultation is a way for healthcare professionals to document the information in a structured & organized way and is being used worldwide by the medical professionals. It also guides the professionals for evaluating information and provides a cognitive framework for clinical reasoning. The structure of documentation is a checklist with defined flow that serves as a cognitive aid and a potential index to capture and retrieve information about a patient’s health. SOAP is an acronym for Subjective, Objective, Assessment and Plan that classifies the health information captured according to the source or type of information and facilitates clinical decision making.

Any information which is subjective i.e. are personal views, experiences or feelings or information provided by the patient himself is classified as subjective” viz. captured as reported.

Subjective information can comprise of the following sections-

* **Chief complaints**- Any symptoms or complaints that were reported by the patient in verbatim to the healthcare provider can be recorded under chief complaints. It refers to the reason of patient’s visit to the clinical facility or setting. A patient can report one or multiple chief complaints if present that will help in arriving at a diagnosis. A chief complaint can also be used to start a clinical episode the patient may require a treatment for e.g.: episode of headache which may require multiple visits
* **History of present illness**- This is the section where patient elaborates or provides more information about the chief complaints reported by him/her. This may include recording more details or parameters like “**Onset, Location, Duration, Characterization, Aggravating factors** (if its better or worse during a course of day), **Alleviating factors**, **Radiation** (if the symptom is restricted to an area or moves), and **Severity**. Though capturing all the parameters mentioned are not mandatory for every clinical setting. Capturing information about these parameters depends upon the type of complaint reported and can be template driven.
* **Patient History** – This section is very critical specially for the first visit of a new patient. This section is used to capture patient’s clinical history (Past surgeries, past notifiable diagnosis, comorbidities, active medication lists, patient reported allergies, immunizations etc.), family history and social history. This is critical to set the context for a diagnosis and treatment plan.
  1. **Scope & Not in Scope**

Functionality scope includes:

* Patient Search
* Consultation (Subjective)
  1. **Business Process Flow**
     1. **Business Process Flow for Patient Search**

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| **Description** | Patient search is used to search an existing patient in an application. Once a patient gets registered his/her details are saved in the Master Patient Index of that application or facility and can be retrieved as in when required to make any transaction against the patient. A patient can be searched either using the UHID (Unique health Identification number or a facility allocated Registration or identification number or a combination of two or more demographic fields can be used to search a unique patient.  A patient search functionality can be used at multiple places in a health delivery information system. Patient search can be used to search patient in a waiting list or even in the consultation screen to extract patient’s medical record where patient comes for a repeat visit. |
| **Users** | Doctor, Nurse |
| **Pre-requisites** | Registered Patient |
| **Business Process Details** | A patient search is the process to look-up for a specific patient from the patient waitlist or the HDIS application. These could be done by searching for either the patient’s UHID or basic demographic details. |
| **Steps** | * Patient walks-in to the consultation room at the defined time and meets the consulting nurse or doctor. * If doctor/nurse has a waiting list, can search patient directly in the waiting list with name or his/her UHID. * In cases where the application doesn’t have a patient waitlist, Doctor/ Nurse will click on patient search and enter the unique health identification number (if known) to search the patient. * If the UHID is not known user can use combination of two or more patient’s demographic details like patient’s name and mobile number or date of birth and mobile number etc. * Upon entering the details, they will click on search. * System will search the waiting list or master patient index and opens the relevant patient record |
| **Outputs** | * Patient’s record found with encounter and episode details filled (Calls Patient Visit Microservice) |
| **Messages & Alerts** | * System alerts if patient not found |

* + 1. **Business Process Flow for Consultation (S)**

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| **Description** | As shared earlier, the S (Subjective) component of a SOAP note covers the following:   * **Chief Complaints (CC)** – It is the presenting problem reported by the patient. It can be a symptom, condition, previous diagnosis or a problem narrated by the patient * **History of Present Illness (HPI)** – It is the elaboration of CC and is organized as OLDCARTS – Onset, Location, Duration, Characterization, Alleviating & Aggravating Factors, Radiation,and Severity. * **Patient History** – It covers the clinical and medical history (Active medications, comorbidities, closed yet notifiable diagnosis, Surgical History, Family History, Social History and Allergies). |
| **Users** | Nurse, Doctor |
| **Pre-requisites** | * Patient is registered * Patient visit is marked on patient’s arrival. * Episode ID and Encounter ID are created which will be utilized by this microservice by calling “Visit Management Microservice”. |
| **Business Process Details** | The various sections under the “Subjective” component run parallelly while consulting with the patient. As a result, some of the information may be entered as the patient narrates or answers while some may have to be interpreted (by the nurses’ or doctor’s knowledge or by referring to documents on the system).  The patients usually do not follow any order when they narrate the subjective aspects of their problem and it is the skill of the nurse or doctor to streamline the information. SOAP notes are exactly meant to streamline such information and guide the nurse or doctor to note the complete set of clinically critical and relevant information. It also assists the nurse or doctor to capture the subjective sets of information that would lead to a correct diagnosis and care plan.  Soon after a visit is marked for a registered patient on his/her arrival at the facility an episode is created by the system and is associated with an episode ID. Simultaneously the visit will fall under this episode and will have an encounter ID that will get linked to the episode ID. An episode can have one or multiple encounter IDs linked to it until the doctor closes an active episode.  All the clinical information of the patient gets recorded against the encounter ID under an active episode for the corresponding visits. An application should have a functionality to check if the new encounter should be associated with an open episode or is altogether a separate episode where the chief complaints and diagnosis are different.  A new SOAP note is opened by searching the patient in the SOAP (Consultation screen) or the patient wait list. It will only record the information facilitated during the present visit. Any past visit data is moved to patient’s history segment in the opened SOAP note which are no more active. |
| **Steps** | * When a registered patient arrives to get a consultation service rendered, a visit is marked and created for the patient for a consultation service against a doctor/nurse. * This visit creation generates an episode ID and a linked encounter ID for which the encounter details will be captured by the doctor/nurse in further steps. * On marking the visit patient waitlist for consultation shows the patient details if that functionality exists in the HDIS/EMR application. * Doctor/nurse can search patient in the patient waitlist or directly click on the patient seen in the waitlist. * In cases where the consultation module does not have a patient waitlist a patient record or new SOAP note for the patient can be opened by searching the patient in the SOAP screen directly using UHID or other patient demographic parameters. * On a successful search, a fresh SOAP note is opened with prefilled demographic details of the patient and associated episode and encounter ID with present date. * It will also have history or active conditions/allergies/labs/drugs etc. if the patient had consulted the doctor before. * At this time when there is active diagnosis a doctor can link present encounter to an existing episode or can keep it as a fresh/new episode. * The nurse or doctor may begin the consultation process by using the SOAP note as a guide and starts entering the clinical details for the patient. * The SOAP screen will show a summary of last visit if any. Rest of the present encounter details under **‘Subjective’**are entered as follows: * **Chief Complaints** * Doctor/ Nurse asks the patient about the presenting problem and let them narrate it in their own words. * Doctor/ Nurse enters the reported problem by using the lookup function from a symptoms master list or ICD10 symptom list. (Recommended) * **History of Present Illness** - Doctor/ Nurse also adds more details about the reported chief complaint which falls under the “History of present Illness” functionality and may include details about the following: * Onset * Location * Duration * Characterization * Alleviating/ Aggravating Factors * Radiation * Time (Severity) * The consulting nurse and doctor may also use a predefined template or questionnaire to ask relevant questions from the patient to arrive at specific information. * Wherever applicable, drop downs may be available to fill in the specific information from standard code directories or value sets as recommended by National Digital Health Blueprint (NDHB). Details of the applicable code directories are also provided in the MDDS document as well as in the “E-encounter Note object”. * Upon capturing, the complete set of information, the nurse or doctor reviews the information. Add comments if any and saves the information. * System alerts on missing gaps or information errors * **Patient History:** The note should have the following sub sections to capture patient’s history with structured template:***(Details about the data elements for these sections are provided in the e-encounter note)*** * Medical * Surgical * Family * Social * Please note history for the patient is captured for the first visit, in later visits the history is only reviewed by the Doctor for decision making that was captured previously. Though Doctor may have a privilege to add more in the history section. The history may also capture investigations and documentation created by other doctors/ consultants. * Also note all the diagnosis that will be closed by the Doctor in future visits will move to patient medical history and will be seen under the history section. * Upon capturing, the complete set of information, the nurse or doctor reviews the information. * Add comments if any and saves the information. * System alert on missing gaps or information errors. * **Allergies:** This section is used to capture any allergies for the patient that may include a food, drug, environmental allergies etc. * In case of existing patient, allergies may be prefilled, and active allergies should be always visible in the consultation screen. * Upon capturing, the complete set of information, the nurse or doctor reviews the information. * Add comments if any and saves the information. * System alert on missing gaps or information errors. |
| **Outputs** | * Filled & saved Subjective section in the SOAP note |
| **Messages & Alerts** | * System alert on missing information and/ or validation gaps if any |

* 1. **Required MDDS Data Elements**
     1. **Entity: Generic**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Max. size** | **Code Directory** |
|  |  |  |  |  |
| Time | 05.001.0001 | HH:MM :SS | 8 |  |
| Date |  | dd/mm/yyyy | 10 | Refer to G00.01 |
| Alternate Identifier Type | 05.001.0003 | Integer | 2 | Refer to CD05.053 |
| Alternate Identifier | 05.001.0004 | Varchar | 254 |  |
| Alternate Identifier Format | 05.001.0005 | Bytes | 20 |  |
| Comments | 05.001.0007 | Varchar | 99 |  |
| Unit of Measurement | 05.001.0018 | Varchar | 25 | Refer to CD05.025 |
| Healthcare Application Number | 05.001.0019 | Integer | 5 | Refer to CD05.013 |
| Code System Qualifier Type | 05.001.0020 | Char | 1 |  |
| Code System Qualifier | 05.001.0021 | Varchar | 15 | Refer to CD05.032 |
| System of Medicine | 05.001.0022 | Integer | 2 | Refer to CD05.030 |
| Document ID | 05.001.0023 | Varchar | 50 |  |
| Reference Document ID | 05.001.0024 | Varchar | 50 |  |
| Non-Clinical Document Type | 05.001.0025 | Integer | 2 | Refer to CD05.034 |
| Reference Document | 05.001.0026 | Varchar | 254 |  |
| Non-Clinical Document | 05.001.0027 | Varchar | 4096 |  |

* + 1. **Entity: Person**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Unique Health Identification Number |  | Integer | 12 | Refer to G01.01 |
| Alternate Unique Identification Number (UID) Type | 05.002.0001 | Integer | 2 | Refer to CD05.007 |
| Alternate Unique Identification Number (UID) | 05.002.0002 | Varchar | Max. Size =18 10 - PAN Card 08 - Passp ort No. 18 - Voter ID 18 - Any other Identifier |  |
| Time of Birth | 05.002.0003 | HH:MM :SS | 8 |  |
| Nationality Code | 05.002.0006 | Integer | 1 |  |
| Multiple Birth Indicator | 05.002.0007 | Integer | 1 |  |
| Person Name Type | 05.002.0008 | Char | 1 |  |
| Phone Owner | 05.002.0009 | Integer | 2 |  |
| Contact Type | 05.002.0010 | Integer | 2 | Refer to CD05.054 |
| Contact Person Name | 05.002.0011 |  |  | Refer to G01.02 |
| Contact Relationship Code | 05.002.0012 |  |  | Refer to G01.08- 01 |
| Contact Person Address | 05.002.0013 |  |  | Refer to G02.03 |
| Contact Person landline telephone number | 05.002.0014 | Varchar | 8 | Refer to G00.06- 01-05 |
| Contact Person mobile telephone number | 05.002.0015 | Char | 10 | Refer to G00.06- 02-05 |
| Contact Person Email Address/URL | 05.002.0016 | Varchar | 254 | Refer to G00.09 |
| Author Name | 05.002.0017 |  |  | Refer to G01.02 |
| Author ID | 05.002.0032 | Varchar | 18 |  |
| Author Landline Telephone Number | 05.002.0018 | Varchar | 8 | Refer to G00.06- 02-05 |
| Author Mobile number | 05.002.0019 | Char | 10 | Refer to G00.09 |
| Author Email Address/URL | 05.002.0020 | Varchar | 254 | G01.02 |
| Family Member Gender | 05.002.0022 | Char | 1 | Refer to G01.03 |
| Family Member Medical History | 05.002.0024 | Varchar | 4096 |  |
| Family Member UID Number | 05.002.0025 |  |  | Refer to G01.01 |
| Family Member Relationship | 05.002.0027 |  |  |  |
| Family Member Relationship Description | 05.002.0028 | Varchar | 99 |  |
| Family Member Age | 05.002.0029 | Age year(s) (yyy) Integer( 3) AgeMonth( s) (mm) Integer( 2) AgeDay(s) (dd) Integer (2) 999,99, 99 no precedi ng zero [years, months , days] | 7 |  |
| Special Vulnerability | 05.002.0030 | Integer | 2 |  |

* + 1. **Entity: Patient**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Provider’s Patient ID | 05.003.0001 | Varchar | 18 |  |
| Patient Name | 05.003.0002 |  |  | Refer to G01.02 |
| Patient Age | 05.003.0003 | Age year(s) (yyy) Integer( 3) AgeMonth( s) (mm) Integer( 2) AgeDay(s) (dd) Integer (2) Default Value: 999,99, 99 no precedi ng zero [years, months , days] | 7 |  |
| Birth Order | 05.003.0004 | Integer | 1 |  |
| Parity | 05.003.0005 | Integer | 2 |  |
| Gravida | 05.003.0006 | Integer | 2 |  |
| Identity Unknown Indicator | 05.003.0007 | Integer | 1 |  |
| Patient Mobile Number | 05.003.0012 | Char | 10 | Refer to G00.09 |
| Patient Arrival Time | 05.003.0014 | HH:MM :SS | 8 |  |
| Patient Arrival Date | 05.003.0015 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Reason for visit | 05.003.0016 | Varchar | 99 |  |
| Pregnancy indicator | 05.003.0017 | Integer | 1 |  |
| Duration of pregnancy | 05.003.0018 | Integer | 2 |  |

* + 1. **Entity: Employee**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Employee Name | 05.004.0001 |  |  | Refer to G01.02 |
| Employee Gender Code | 05.004.0003 |  |  | Refer to G01.03 |
| Employee Telephone Number | 05.004.0006 | Varchar | 8 | Refer to G00.06- 02-05 |
| Employee Mobile Number | 05.004.0007 | Char | 10 | Refer to G00.09 |
| Employee E-mail Address | 05.004.0008 | Varchar | 254 | Refer to G01.02 |
| Academic Qualification Level Code | 05.004.0012 | Integer | 2 | Refer to CD05.095 |
| Academic Qualification Type Code | 05.004.0013 | Integer | 2 | Refer to CD05.096 |
| Academic Qualification Free Text | 05.004.0014 | Varchar | 99 |  |
| Employee ID | 05.004.0053 | Varchar | 18 |  |
| Employee Designation Code | 05.004.0056 | Integer | 3 |  |

* + 1. **Entity: Provider**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Unique Individual Health Care Provider Number | 05.005.0001 | Varchar | 18 |  |
| Unique Individual Health Care Provider Number Type | 05.005.0002 | Integer | 2 | Refer to CD05.008. |
| Registration Authority Number | 05.005.0003 | Integer | 3 | Refer to CD05.012 |
| Health Care Provider Landline Telephone Number | 05.005.0006 | Varchar | 8 | Refer to G00.06- 02-05 |
| Health Care Provider Mobile Number | 05.005.0007 | Char | 10 | Refer to G00.09 |
| Health Care Provider Email Address/URL | 05.005.0008 | Varchar | 254 | Refer to G01.02 |
| Health Care Provider Name | 05.005.0009 |  |  | Refer to G01.02 |
| Health Care Provider Role code | 05.005.0010 | Integer | 2 | Refer to CD05.009 |
| Health Care Provider Role Free Text | 05.005.0011 | Varchar | 99 |  |
| Health Care Provider Type | 05.005.0012 | Integer | 2 | Refer to CD05.010 |

* + 1. **Entity: Facility**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Unique Facility Identification Number | 05.008.0001 | Integer | 10 | Refer to CD05.001 |
| Facility Type Code | 05.008.0002 | Integer | 2 | Refer to CD05.002 |
| Facility Service Code | 05.008.0009 | Varchar | 18 | Refer to CD05.043 |
| Facility Specialty Code | 05.008.0010 | Integer | 3 | Refer to CD05.011 |
| Department Name | 05.008.0015 | Varchar | 99 | Refer to CD05.090 |
| Ward Name | 05.008.0016 | Varchar | 99 | Refer to CD05.088 |
| Referral Facility Identification Number | 05.008.0019 | Integer | 10 | Refer to CD05.001 |
| Referral Facility Type Code | 05.008.0020 | Integer | 2 | Refer to CD05.002 |
| Referral from Facility Identification Number | 05.008.0021 | Integer | 10 | Refer to CD05.001 |
| Referral from Facility Type Code | 05.008.0022 | Integer | 2 | Refer to CD05.002 |
| Facility Global Unique Identifier (GUID) | 05.008.0025 | Bits | 16 |  |

* + 1. **Entity: Episode**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Episode ID | 05.009.0001 |  |  |  |
| Episode Type | 05.009.0002 |  |  |  |

* + 1. **Entity: Encounter**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Encounter ID | 05.010.0001 | Varchar | 18 |  |
| Encounter Type | 05.010.0002 | Integer | 2 | Refer to CD05.047 |
| Encounter Type Description | 05.010.0003 | Varchar | 254 |  |
| Encounter Time | 05.010.0004 | HH:MM:SS | 8 |  |
| Encounter Date | 05.010.0005 | dd/mm/yyyy | 10 | Refer to G00.01 |

* + 1. **Entity: Emergency**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum size** | **Code Directory** |
|  |  |  |  |  |
| Patient Arrival Date | 05.013.0001 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Patient Arrival Time | 05.013.0002 | HH:MM:SS | 8 |  |
| Patient Status | 05.013.0003 | Integer | 2 |  |
| Ambulatory Status | 05.013.0004 | Char | 2 | Refer to CD05.065 |
| MLC Indicator | 05.013.0005 | Integer | 1 |  |
| Mass Injury Indicator | 05.013.0006 | Integer | 1 |  |
| Cause of Mass Injury | 05.013.0007 | Integer | 2 | Refer to CD05.066 |
| Accident Location | 05.013.0008 |  |  | Refer to G02.03 |
| Referral Category | 05.013.0009 | Char | 1 | Refer to CD05.067 |
| Date of Referral | 05.013.0010 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Time of Referral | 05.013.0011 | HH:MM:SS | 8 |  |
| Provider Facility Identification Number | 05.013.0013 | Integer | 10 | Refer to CD05.001 |
| Reason for Referral | 05.013.0012 | Varchar | 254 |  |

* + 1. **Entity: Outreach**

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| **Data Elements** | **MDDS Codes** | **Data Size** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Outreach Service Delivery Place Name | 05.014.0001 |  |  | Refer to G02.02 |
| Outreach Service Delivery Place Address | 05.014.0002 |  |  | Refer to G02.03 |
| Outreach Service Delivery Place Type | 05.014.0003 | Integer | 2 | Refer to CD05.047 |
| Outreach Service Purpose | 05.014.0004 | Integer | 2 | Refer to CD05.127 |
| Outreach Service Provider Name | 05.014.0005 |  |  | Refer to G01.02 |
| Outreach Service Provider Type | 05.014.0006 | Integer | 2 | Refer to CD05.010 |
| Outreach Service Provider Identification Number | 05.014.0007 | Varchar | 18 |  |
| Referral Support Indicator | 05.014.0010 | Integer | 1 |  |

* + 1. **Entity: Allergy**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Allergy Product Code | 05.018.0001 | Integer | 5 | Refer to CD05.018 |
| Allergy Product Description | 05.018.0002 | Varchar | 99 |  |
| Allergy Reaction Code | 05.018.0003 | Varchar | 10 | Refer to CD05.019 |
| Allergy Reaction Name | 05.018.0004 | Varchar | 99 | Refer to CD05.019 |
| Allergy Reaction Description | 05.018.0005 | Varchar | 99 |  |
| Allergy Severity Code | 05.018.0006 | Integer | 2 | Refer to CD05.020 |
| Allergy Severity Description | 05.018.0007 | Varchar | 99 |  |
| Allergy Status | 05.018.0008 | Integer | 2 | Refer to CD05.021 |
| Allergy History | 05.018.0009 | Varchar | 4096 |  |
| Adverse Event Type | 05.018.0010 | Varchar | 10 | Refer to CD05.019 |

* + 1. **Entity: Clinical Notes**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Author Time | 05.019.0001 | HH:MM:SS | 8 |  |
| Author Date | 05.019.0002 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Reference | 05.019.0003 | Varchar | 99 |  |
| Information Source Name | 05.019.0004 | Varchar | 99 |  |
| Clinical Document | 05.019.0005 | Varchar | 4096 |  |
| Clinical Document Type | 05.019.0006 | Integer | 2 | Refer to CD05.046 |
| Patient Age at onset of health condition | 05.019.0009 | Ageyear(s) (yyy) Integer( 3) AgeMonth( s) (mm) Integer( 2) AgeDay(s) (dd) | 7 |  |
| Family Member Age at Onset of Health Condition | 05.019.0010 | Ageyear(s) (yyy) Integer( 3) AgeMonth( s) (mm) Integer( 2) AgeDay(s) (dd) Integer (2) 999,99, 99 no precedi ng zero [years, months , days] | 7 |  |
| Family Member Cause of Death Known Indicator | 05.019.0011 | Integer | 1 |  |
| Family Member Age at Death | 05.019.0012 | Ageyear(s) (yyy) Integer( 3) AgeMonth( s) (mm) Integer( 2) AgeDay(s) (dd) Integer (2) 999,99, 99 no precedi ng zero [years, months , days] | 7 |  |
| Family Member Multiple Birth Status | 05.019.0013 | Integer | 2 |  |
| Family Member Multiple Birth Order | 05.019.0014 | Integer | 2 |  |

* + 1. **Entity: Lab**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Result Date | 05.021.0001 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Result Time | 05.021.0002 | HH:MM:SS | 8 |  |
| Result Type | 05.021.0003 | Varchar | 10 | Refer to CD05.024 |
| Result Status | 05.021.0004 | Char | 2 | Refer to CD05.038 |
| Result Value | 05.021.0005 | Varchar | 20 |  |
| Result Interpretation | 05.021.0006 | Integer | 2 | Refer to CD05.135 |
| Result Reference Range - lower limit | 05.021.0007 | Integer | 7 | Refer to CD05.039 |
| Result Reference Range - Upper limit | 05.021.0008 | Integer | 7 | Refer to CD05.039 |
| Result Category | 05.021.0009 | Varchar | 10 | Refer to CD05.040 |
| Specimen Type | 05.021.0011 | Integer | 3 | Refer to CD05.049 |
| Lab Order Code | 05.021.0022 | Varchar | 10 | Refer to CD05.024 |
| Lab ID | 05.021.0023 | Integer | 10 | Refer to CD05.122 |
| Lab Type | 05.021.0024 | Integer | 1 |  |
| Lab Result ID | 05.021.0025 | Varchar | 10 |  |

* + 1. **Entity: Radiology**

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| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Radiology Center ID | 05.022.0001 | Integer | 10 | Refer to CD05.094 |
| Radiology Center Type | 05.022.0002 | Integer | 1 | Refer to.094 |
| Radiology Procedure Date | 05.022.0003 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Radiology Procedure Time | 05.022.0004 | HH:MM:SS | 8 |  |
| Radiology Technician Comments | 05.022.0005 | Varchar | 99 |  |
| Radiologist’s Impression | 05.022.0006 | Varchar | 254 |  |
| Radiology Procedure Name | 05.022.0007 | Varchar | 255 | Refer to CD05.043 |
| Radiology Procedure Code | 05.022.0008 | Varchar | 18 | Refer to CD05.043 |
| Radiology Result Status | 05.022.0009 |  |  | Refer to CD05.038 |
| Radiology Result ID | 05.022.0010 | Varchar | 10 |  |

* + 1. **Entity: Remission**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Date of Remission | 05.032.0001 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Remission Type | 05.032.0002 | Integer | 2 | Refer to CD05.022 |
| Remission Name | 05.032.0003 | Varchar | 99 | Refer to CD05.019 |
| Remission Code | 05.032.0004 | Varchar | 10 | Refer to CD05.019 |
| Remission Description | 05.032.0005 | Varchar | 254 |  |

* + 1. **Entity: Complications**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Date of Complication | 05.033.0001 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Complication Type | 05.033.0002 | Integer | 2 | Refer to CD05.022 |
| Complication Name | 05.033.0003 | Varchar | 99 | Refer to CD05.019 |
| Complication Code | 05.033.0004 | Varchar | 10 | Refer to CD05.019 |
| Complication Description | 05.033.0005 | Varchar | 20 |  |

* + 1. **Entity: Relapse**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Date of Relapse | 05.034.0001 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Relapse Type | 05.034.0002 | Interger | 2 | Refer to CD05.022 |
| Relapse Name | 05.034.0003 | Varchar | 99 | Refer to CD05.019 |
| Relapse Code | 05.034.0004 | Varchar | 10 | Refer to CD05.019 |
| Relapse Description | 05.034.0005 | Varchar | 254 |  |

* + 1. **Entity: Disability**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data Elements** | **MDDS Codes** | **Data Format** | **Maximum Size** | **Code Directory** |
|  |  |  |  |  |
| Date of Disability | 05.036.0001 | dd/mm/yyyy | 10 | Refer to G00.01 |
| Disability Type | 05.036.0002 | Integer | 1 | Refer to CD05.022 |
| Disability Name | 05.036.0003 | Varchar | 99 | Refer to CD05.055 |
| Disability Code | 05.036.0004 | Varchar | 10 | Refer to CD05.055 |
| Disability Description | 05.036.0005 | Varchar | 200 |  |

**e- Encounter Note Object**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Data Elements Labels** | **FHIR Label** | **Cardinality** | **Field Type** | **Data Format String,Varchar,Integer,Value set** | **Maximum Size** | **Applicable code directory/value set** | **MDDS Label** | **Remark** |
| **Header (Encrypted and stored) This data will be machine readable and not viewed on the screen** | | | | | | | | |
| Unique Health Identification Number (UHID) | Patient.identifier | 1 | Mandatory | Integer | 12 |  | G01.01 | This will be generated once MOHFW builds the mater patient index for the country, as per NDHB we have to keep a place holder for the same. States can also build the state lever patient or citizen registry and can use that ID here and later can roll up to the central. |
| Alternate Unique Identification Number (UID) Type | Patient.identifier | 1 | Mandatory | Integer | 12 | CD05.007 | 05.002.0001 | Till the time the UHID is unavailable, patient alternate id can used in place of a unique identifier. For a hospital setting it can be the patient's AADHAR number. and for those enrolled in vertical programs, the IDs allotted to each patient under that program can be utilized for example, NIKSHAY ID. |
| Alternate Unique Identification Number (UID) Type | Patient.identifier | 1 | Mandatory | Varchar |  |  | 05.002.0002 |
| Facility Global Unique Identifier (GUID) | Patient.managingOrganization | 1 | Mandatory | Bits | 16 | CD05.001 | 05.008.0025 | Custodian of patient record or the object  Government is working on creating a National Facility Registry for all the healthcare facilities (Public and Private) and will generate unique facility IDs for each. This ID will come through that registry. For now states can use their own facility ID if they have at state level that identifies each facility uniquely in the state. (Required to be used for PMJAY |
| Unique Individual Health Care Provider Number | Practitioner.identifier | 1 | Mandatory | Varchar | 18 | CD05.008 | 05.005.0001 | Similarly, as per NDHB each healthcare provider like doctor, nurse etc will have a unique identifier that will be maintained Nationally in the provider registry. A placeholder for the same is required, till then medical council number or registration number of the doctor can be used here |
| Clinical Document Type Code | Composition.type | 1 | Mandatory | Integer | 2 | CD05.046 | 05.019.0006 | These will be backend values that will help to track all the clinical documents that will be generated by any application. |
| Document ID | Composition.identifier | 1 | Mandatory | Varchar | 50 |  | 05.001.0023 | This most of the application generates and store in their audit trail can just map with the MDDS code |
| Episode ID | EpisodeOfCare.identifier | 1 | Optional | Varchar | 50 |  | 05.009.0001 | Automatically generated by the system and NSF card should store this information for the encounter info they store |
| Episode Type | EpisodeOfCare.type | 1 | Optional | Integer | 1 | 1 - New 2 - Ongoing 3 - Active 4 - Inactive | 05.009.0002 |  |
| Episode Status | EpisodeOfCare.status | 1 | Mandatory |  |  | planned Waitlist Active On hold Finished Cancelled Entered in error |  |  |
| Encounter Date | Encounter.appointment | 1 | Optional | G00.01 |  |  | 05.010.0005 | Every time a new visit is created for consultation or any other service system automatically generates this to maintain the longitudinal record of a patient |
| Encounter ID | Encounter.identifier | 1 | Optional | Varchar | 18 |  | 05.010.0001 |
| **Title To be printed** | | | | | | | | |
| Unique Health Identification Number (UHID) | Patient.identifier | 1 | Optional | Integer | 12 | G01.01 |  | Nationally (State level) maintained patient's health ID |
| Hospital's Patient ID | Condition.subject | 1 | Optional | Varchar | 18 |  | 05.003.0001 | Local Registration ID of the facility |
| Patient Name | Patient.name | 1 | Optional |  |  | G01.02 | 05.003.0002 | Retrievable fields |
| Patient Age | Patient.birthDate | 1 | Optional | Age-year(s) (yyy) Integer(3) Age-Month(s) (mm) Integer(2) Age-Day(s) (dd) Integer (2) Default Value: 999,99,99 no preceding zero [years, months, days] | 7 |  | 05.003.0003 |
| Patient Gender | Patient.gender | 1 | Optional | Char | 1 | G01.03 |  |
| Patient Class | Encounter.class | 1 | Mandatory | Integer | 2 | CD05.047 | 05.003.0013 |
| Unique Individual Health Care Provider Number | Practitioner.identifier | 1 | Mandatory | Varchar | 18 |  | 05.005.0001 | **Auto captures as per the user log in** |
| **Patient Address (05.003.0009)** | | | | | | | | |
| Patient Address Type | Address.use | 1 | Optional | Char | 1 | CD05.120 | 05.003.0010 | **Retrievable fields** |
| Premises Identifier | Address.line | 1 | Optional | Varchar | 60 |  | G02.03-00-02 |
| Sub Locality-1 | Address.line | 1 | Optional | Varchar | 50 |  | G02.03-01-03 |
| Locality | Address.line | 1 | Optional | Varchar | 50 |  | G02.03-03-03 |
| Land Region code | Address.country | 1 | Optional | Integer | State - 2 District - 3 Sub-District - 5 Village - 6 Town - 6 |  | G02.01 |
| District | Address.district | 1 | Optional | Integer | 3 | CD02.03 | G02.01 |
| Sub-District | Address.line | 1 | Optional | Integer | 5 | CD02.04 | G02.02-01 |
| Village | Address.line | 1 | Optional | Integer | 6 |  | G02.01 |
| Town | Address.city | 1 | Optional | Integer |  | CD02.06 |  |
| State | Address.state | 1 | Optional | Integer | 2 | CD02.02 |  |
| Pin | Address.postalCode | 1 | Optional | Integer | 6 |  | G02.04-01 |
| Name of a Land region in English | Address.country | 1 | Optional | Varchar | 50 |  | G02.02-01 |
| Patient's email Address | Patient.telecom | 1 | Optional | Refer to Email (G00.09) |  |  | G00.09 |
| Patient Mobile Number | Patient.telecom | 1 | Optional | Char | 10 |  | 05.003.0012 |
| **Subjective Information** | | | | | | | | |
| **Family History** | | | | | | | | |
| Family Member Medical History | FamilyMemberHistory | 0....many | Mandatory | Varchar | 4096 | CD05.046 | 05.002.0024 |  |
| Family Member UID number | FamilyMemberHistory.identifier/ Condition.subject | 0..many | Optional | G01.01 |  |  | 05.002.0025 |  |
| Family Member Relationship | FamilyMemberHistory.relationship | 1 | Mandatory | G01.08-01 |  |  | 05.002.0027 |  |
| Health Condition Code (Family Member) | FamilyMemberHistory.condition.code | 0 to many | Mandatory | Varchar | 10 | ICD10/snomed/ICD11 | 05.020.0003 | Record only there is an active condition or a notifiable or NCD history |
| Health Condition status | FamilyMemberHistory.condition.outcome | 1 | Mandatory |  |  | CD05.021 | 05.020.0007 |  |
| **Patient's Clinical History** | | | | | | | | |
| Existing/comorbidity Health Condition Code | Condition.code | 0 to many | Mandatory | Varchar | 10 | ICD10/11/SNOMED | 05.020.0003 |  |
| Health Condition status | Condition.clinicalStatus | 1 | Mandatory |  |  | CD05.021 | 05.020.0007 | For the next encounter all the cured and closed diagnosis will be shown here with a logic built by the healthcare facility (eg: till what date a closed diagnosis should be shown) |
| Past Health Condition Onset Date | Condition.onset[x] | 1 | Optional | Refer to Date (G00.01) | 8 |  | NA |  |
| **Chief Complaints** | | | | | | | | |
| Chief Complaint ID | Condition.identifier | 0 to many | Mandatory | Varchar |  |  | NA | Can have more than 1 cardinality) |
| Chief Complaint Name | EpisodeOfCare.diagnosis.role | o to many | Mandatory | Varchar |  | ICD 10 (Signs & Symptoms) | NA |  |
| Body Site | Condition.bodySite | 1 | Mandatory | Integer | 2 | CD05.026 | 05.023.0007 |  |
| Duration | Condition.abatement[x] | 1 | Mandatory | Integer |  |  | NA |  |
| **Patient Allergies** | | | | | | | | |
| Allergy Product Code | AllergyIntolerance.code | 0 to many | Mandatory | Integer | 5 | CD05.018 | 05.018.0001 | This information is collected during the first consultation, but treating doctor can add more allergies if reported by the patient or through an adverse event reported by the hospital in future. |
| Allergy Product Description | AllergyIntolerance.reaction.substance | 0 to many | Mandatory | Varchar | 99 |  | 05.018.0002 |
| Allergy Status | AllergyIntolerance.clinicalStatus | 0 to many | Mandatory | Integer | 2 | CD05.021 | 05.018.0008 |
| Author Time | AllergyIntolerance.onset[x] | 1 | Optional | HH:MM:SS | 8 |  | 05.019.0001 | To be maintained internally |
| Author Date | AllergyIntolerance.onset[x] | 1 | Optional | Refer to Date (G00.01) |  |  | 05.019.0002 |
| Author ID | AllergyIntolerance.asserter | 1 | Mandatory | Varchar | 18 |  | 05.002.0032 | Code of the Author who has authored the clinical information that need to be exchanged. E.g. provider who has authored patient discharge summary or referral notes. |
| **Observations** | | | | | | | | |
| **Vitals https://www.hl7.org/fhir/observation-vitalsigns.html** | | | | | | | | |
| Vital Sign Result Time | Observation.effective[x] | 0 to many | Optional | HH:MM:SS | 8 |  | 05.017.0001 |  |
| Vital Sign Result Type | Observation.category | 0 to many | Optional | Integer | 2 | CD05.038/ https://www.hl7.org/fhir/observation-vitalsigns.html/ | 05.017.0002 |  |
| Vital Signs Result Status | Observation.status | 0 to many | Mandatory | Integer | 2 | CD05.038 | 05.017.0003 | Can be configured as per the specialty or clinical problem an application is trying to solve. A facility or department can decide which vitals they would like to capture. The vital parameters are provided in the associated code directory which is provided in another excel in this folder.    Each vital parameter will have cardinality 1, and is captured in every encounter. |
| Vital Sign Result Value | Observation.value[x] | 0 to many | Optional | Varchar | 20 |  | 05.017.0004 |
| Vital Sign Result Unit | Observation.value[x] | 0 to many |  | Integer | 2 | CD05.025 | 05.017.0005 |
| Vital Sign Result Interpretation | Observation.interpretation | 0 to many | Optional | Integer | 2 | CD05.135 | 05.017.0006 |
| Vital Sign Result Reference Range - lower limit | Observation.interpretation | 0 to many | Optional | Integer | 3 | CD05.039 | 05.017.0007 |
| Vital Sign Result Reference Range - Upper limit | Observation.referenceRange.high | 0 to many | Optional | Integer | 3 | CD05.039 | 05.017.0008 |
| Vital Sign Result Date | Observation.issued | 0 to many | Optional | Refer to Date (G00.01) |  |  | 05.017.0009 |
| Vital Sign Result ID | Observation.identifier | 0 to many | Optional | Integer | 2 |  | 05.017.0010 |
| **Examination** | | | | | | | | |
| Examination Type | Observation.category | 0 to many | Optional | Integer | 3 | CD05.061 | 05.016.0001 | There will be specific templates for each Type as per the medical speciality. |
| Examination Finding | Observation.code | 0 to many | Mandatory | Varchar | 4096 |  | 05.016.0002 |
| Examined System | BodyStructure.location | 0 to many | Optional | Integer | 2 | CD05.033 | 05.016.0003 |
| **Assessment** | | | | | | | | |
| **Diagnosis** | | | | | | | | |
| Health Condition Type | Condition.code | 1 to many | Mandatory | Integer | 2 | CD05.022 | 05.020.0001 |  |
| Health Condition name | Condition.code | 1 to many | Mandatory | Varchar | 9 | CD05.019 | 05.020.0002 |  |
| Health Condition Code | Condition.code | 1 to many | Mandatory | Varchar | 10 | CD05.019/ ICD10/SNOMeD | 05.020.0003 | Diagnosis ID |
| Health Condition Description | Condition.note | 1 to many | Optional | Varchar | 254 |  | 05.020.0004 |  |
| Health Condition Category | Condition.category | 1 to many | Optional | Char | 1 |  | 05.020.0005 |  |
| Diagnosis Priority | Condition.severity | 1 to many | Optional | Integer | 1 |  | 05.020.0006 |  |
| Present Health Condition Onset Date | Condition.onset[x] | 1 to many | Optional | Refer to Date (G00.01) |  |  | 05.020.0010 | Auto captures date of entry |
| Health Condition Status | Condition.clinicalStatus | 1 to many | Optional | Integer | 2 | CD05.021 | 05.020.0007 | System should facilitate closure of a cured condition |
| Comorbidity Indicator | EpisodeOfCare.diagnosis.role | 1 to many | Optional | Integer | 1 |  | 05.020.0008 |  |
| Comorbidity Health Condition Code | CarePlan.supportingInfo | 1 to many | Optional | Varchar | 10 | ICD 10/SNOMeD | 05.020.0009 |  |
| **Plan (Orders)** | | | | | | | | |
| **Order Info (Applicable for all orders)** | | | | | | | | |
| Order Date | CarePlan.created | 1 | Optional | Refer to Date (G00.01) |  |  | 05.023.0013 |  |
| Order Time | CarePlan.period | 1 |  | HH:MM:SS |  |  | 05.023.0014 |  |
| Order Group ID | CarePlan.identifier | 1 | Optional | Varchar | 10 |  | 05.025.0007 | Applicable for composite orders or order set (since order sets are used in janta clinic flow) example annual health and wellness check up |
| Order ID | CarePlan.identifier | 1 | Optional | Varchar | 12 |  | 05.025.0004 |  |
| Order Status | CarePlan.status | 1 | Mandatory | Char | 2 |  | 05.025.0008 |  |
| **Treatment Plan details (If applicable)** | | | | | | | | |
| Treatment plan ID /Package ID/ (Primary) | CarePlan.activity | 0 to many | Optional | Integer | 5 |  | 05.007.0038 | Once we have standard treatment guidelines those can be used or the facility may have defined their own set of treatment plan Note: Until STGs arrives we can use package IDs for insurance beneficiary (With cardinality if there are more than one package applicable in case of multiple surgeries during the same patient stay or episode (two open episodes) |
| **Lab Investigations** | | | | | | | | |
| Lab Order Code | DiagnosticReport.code | 0 to many | Mandatory | Varchar | 10 | CD05.024/LOINC | 05.021.0022 |  |
| Lab Order Description | DiagnosticReport.category | 0 to many | Optional | Varchar | 50 |  | NA |  |
| Lab Result ID | DiagnosticReport.result | 0 to many | Optional | Varchar | 10 |  | 05.021.0025 | These values will be visible only when there is a follow up visit for result awaited or a follow up visit for the same episode |
| Result Status | DiagnosticReport.status | 0 to many | Mandatory | Char | 2 |  | 05.021.0004 |
| Result Value | DiagnosticReport.presentedForm | 0 to many | Optional | Varchar | 20 |  | 05.021.0005 |
| Result Interpretation | DiagnosticReport.conclusion | 0 to many | Optional | Integer | 2 |  | 05.021.0006 |
| Result Reference Range - lower limit | Observation.referenceRange.low | 0 to many | Optional | Integer | 7 | CD05.039 | 05.021.0007 |
| Result Reference Range - Upper limit | Observation.referenceRange.high | 0 to many | Optional | Integer | 7 | CD05.039 | 05.021.0008 |
| **Radiology Investigations** | | | | | | | | |
| Radiology Procedure Code | Procedure.code | 0 to many | Optional | Varchar | 18 | CD05.043 | 05.022.0008 |  |
| Radiology Procedure Name | Procedure.code | 0 to many | Optional | Varchar | 255 | CD05.043 | 05.022.0007 |  |
| Radiology Result Status | DiagnosticReport.status | 0 to many | Mandatory | Integer | 2 | CD05.038 | 05.022.0009 | Applicable to follow up visit |
| Radiology Result ID | DiagnosticReport.identifier | 0 to many | Optional | Varchar | 10 |  | 05.022.0010 |
| scanned report attachment |  | 0 to many |  |  |  |  |  |  |
| **Non-radiology Procedure Orders** | | | | | | | | |
| Procedure Code | Procedure.code | 0 to many | Mandatory | Varchar | 10 | CD05.043 | 05.026.0003 | If applicable |
| Procedure Name | Procedure.code | 0 to many | Optional | Varchar | 255 | CD05.043 | 05.026.0001 |
| **Rx Orders** | | | | | | | | |
| Prescription ID | MedicationRequest.identifier | 1 | Mandatory | Varchar | 20 |  | 05.023.0012 |  |
| Generic Drug Code | MedicationKnowledge.code | 0 to many | Mandatory | Integer | 5 | CD05.104 | 05.031.0004 |  |
| Brand Drug Code | Medication.code | 0 to many | Optional | Integer | 10 | CD05.105 | 05.031.0006 |  |
| Brand Drug Name | Medication.identifier | 0 to many | Mandatory | Varchar | 99 | CD05.105 | 05.031.0005 |  |
| Strength Value | Medication.ingredient.strength | 0 to many | Optional | Varchar | 25 |  | 05.031.0011 |  |
| Route of Administration | MedicationAdministration.dosage.route | 0 to many | Optional | Varchar | 6 | CD05.111 | 05.023.0002 |  |
| Medication Frequency | MedicationAdministration.dosage.rate[x] | 0 to many | Optional | Varchar | 5 | CD05.023 | 05.023.0003 |  |
| Medication Administration Interval | MedicationAdministration.dosage.rate[x] | 0 to many | Optional | Varchar | 40 |  | 05.023.0004 |  |
| Dose | MedicationAdministration.dosage | 0 to many | Optional | Varchar | 60 |  | 05.023.0005 |  |
| Medication Stopped Indicator | MedicationStatement.status | 0 to many | Mandatory | Integer | 1 |  |  |  |
| Medication Status | Medication.status | 0 to many | Optional | Integer | 2 | CD05.123 | 05.023.0010 |  |
| Medication Fills | MedicationRequest.dispenseRequest.initialFill | 0 to many | Optional | Integer | 3 |  | 05.023.0019 |  |
| Medication Fill No. | MedicationRequest.dispenseRequest.numberOfRepeatsAllowed | 0 to many | Optional |  |  |  | NA |  |
| Quantity Ordered Value | MedicationDispense.quantity | 0 to many | Optional | Integer | 10 |  | 05.023.0020 |  |
| Pharmacy Units | MedicationDispense.quantity | 0 to many | Optional | Varchar | 25 | CD05.109 | 05.023.0021 |  |
| **Immunization Order (If applicable)** | | | | | | | | |
| Immunization Performer Identification Number | Immunization.performer | 0 to many | Optional | Varchar | 18 |  | 05.024.0004 |  |
| Immunization Product Code | Immunization.vaccineCode | 0 to many | Mandatory | Integer | 3 | CD05.036 | 05.024.0005 |  |
| Medication Series No. | Immunization.protocolApplied.seriesDoses[x] | 0 to many | Optional | Integer | 2 |  | 05.024.0003 |  |
| Immunization Administered Date | Immunization.occurrence[x] | 0 to many | Mandatory | G00.01 |  |  | 05.024.0008 |  |
| **Follow Up Order** | | | | | | | | |
| Follow Up Date | Appointment.start | 0 to many | Optional | G00.01 | 8 |  | NA |  |
| Follow up interval | Appointment.slot | 0 to many | Optional |  |  |  | NA |  |
| Patient Instruction | CarePlan.note | 0 to many | Optional | Free Text |  |  | NA |  |
| **Author Details** | | | | | | | | |
| Author Date | Composition.date | 1 | Mandatory | G00.01 |  |  | 05.019.0002 | Auto captured with role based access control/ Doctor's digital signature who created the encounter note |
| Author Time | Composition.attester.time | 1 | Optional | HH:MM:SS | 8 |  | 05.019.0001 |
| Author's Digital Signature | Signature.who | 1 | Mandatory |  |  |  |  |

**Consultation Subjective Microservice – Technical Specification based on Microservice Event Sourcing Architecture**

**Name – SubjectiveConsultation Microservice**

**Domain Model**

**Aggregate Root**

Subjective class

|  |  |  |
| --- | --- | --- |
| **S.No** | **Attributes (Subjective Class)** | **MDDS Mapping** |
| 1 | subjectiveId (database key) |  |
| 2 | episodeId | 05.009.0001 |
| 3 | encounterId | 05.010.0001 |
| 4 | providerPatientId | 05.003.0001 |
| 5 | List of ChiefComplaint entity | ICD10 (Signs & Symptoms) |
| 6 | List of PatientClinicalHistory entity | 05.020.0003 |
| 7 | List of History entity | 05.002.0024 |
| 8 | List of Allergy entity | 05.018.0002 |
| 9 | List of Clinical Note entity | 05.019.0005 |
| 10 | UniqueFacilityIdentificationNumber | 05.008.0001 |

**Entity**

**N.B. – Fields (attributes) given for each entity are minimum viable fields but vendor may select any subset of it or extend it with more data elements based on their business functionality requirements and care setting level mapping.**

Entity - ChiefComplaint

Fields –

chiefComplaintID ;

chiefComplaintName;

chiefComplaintType

duration;

allergyProductCode;

allergyProductDescription

allergyStatus;

ProviderPatientID;

EncounterID;

List of ClinicalNotes ValueObject

uniqueFacilityIdentificationNumber

Entity - History

Fields –

List<MedicalHistoryValueObject> medicalHistoryList; -> value object

List<SurgicalHistoryValueObject> surgicalHistoryList; -> value object

List<FamilyHistoryValueObject> familyHistoryList; -> value object

List<SocialHistoryValueObject> socialHistoryList; -> value object

UniqueHealthIdentificationNumber

List<ClinicalNote> clinicalDocuments // e.g. Past treatment documents

Entity – PatientClinicalHistory

Fields –

PatientHealthConditionID

healthConditionCode

healthConditionStatus

pastHealthConditionOnsetDate

patientAgeAtOnsetOfHealthCondition;

EncounterID;

reference

ProviderPatientID

uniqueFacilityIdentificationNumber

List<ClinicalNote> chiefcomplaintNotes

Entity – Allergy

Fields –

PatientAllergyID

allergyProductCode;

allergyProductDescription;

allergyReactionCode;

allergyReactionName;

allergyReactionDescription;

allergySeverityCode;

allergySeverityDescription;

allergyStatus;

allergyHistory;

adverseEventType;

ProviderPatientID

EncounterID

uniqueFacilityIdentificationNumber

List<ClinicalNote> clinicaltemplateDocument

Entity – ClinicalNotes

Fields –

ClinicalNoteID

authorTime;

authorDate;

AuthorID

reference;

informationSourceName;

clinicalDocument;

clinicalDocumentType;

ProviderPatientID;

EncounterID;

uniqueFacilityIdentificationNumber

**Value Object**

ValueObject - PatientChiefComplaint

chiefComplaintName;

duration;

ProviderPatientID;

EncounterID;

uniqueFacilityIdentificationNumber

patientAgeAtOnsetOfHealthCondition;

List of ClinicalNotes ValueObject

List of PatientAllergy ValueObject

ValueObject - PatientAllergy

allergyProductCode;

allergyProductDescription;

allergyReactionCode;

allergyReactionName;

allergyReactionDescription;

allergySeverityCode;

allergySeverityDescription;

ProviderPatientID;

allergyStatus;

allergyHistory;

adverseEventType;

EncounterID

UniqueFacilityIdentificationNumber

ValueObject – ClinicalNotes

authorTime;

authorDate;

reference;

informationSourceName;

clinicalDocument;

ProviderPatientID;

EncounterID;

clinicalDocumentType;

uniqueFacilityIdentificationNumber

ValueObject – FamilyHistory

familyMemberMedicalHistory;

family MemberUIDnumber;

familyMemberRelationship;

familyMemberMedicalHistory;

familyMemberUIDNumber;

familyMemberRelationship;

familyMemberAgeAtOnsetOfHealthCondition;

familyMemberCauseOfDeathKnownIndicator;

familyMemberAgeAtDeath;

familyMemberMultipleBirthStatus;

familyMemberMultipleBirthOrder;

ProviderPatientID;

uniqueFacilityIdentificationNumber

ValueObject – MedicalOrSurgicalHistory

AgeAtOnsetOfHealthCondition;

HealthCondition;

HealthConditionType; (Medical or Surgical)

HealthConditionStatus;

ProcedurePerformed;

ProcedureDate;

PatientDispositionAfterProcedure;

ProviderPatientID;

List<ClinicalNote> treatmentDocuments

ValueObject – SocialHistory

HabitDescription

HabitType

OnsetSince;

CurrentStatus;

SmokingFreqency;

AlcoholIntakeFrequency;

ProviderPatientID;

List<ClinicalNote> supportingDocs

**REST API Specification (Restful Web service APIs)**

**getPatientSubjectiveDetailsByEpisodeID**

Method Type– Get

Request parameter – episodeId

response – List of Subjective Aggregate Root Model/DTO Objects

(This will be a paginated response as it covers subjective details across all the visits for a given Issue (Episode)

**getPatientSubjectiveDetailsByEncounterID**

Method Type– Get

Request parameter – encounterId

response – List of Subjective Aggregate Root Model /DTO Objects (covers the chief complaints, history of present illness, allergies etc. recorded by careprovider during a patient visit at care provider facility)

(this will be a paginated response)

**getPatientSubjectiveDetailsByPatientIDANDDate**

Method Type– Get

Request parameter – providerPatientId, uniqueFacilityIdentificationNumber, Date

response – List of Subjective Aggregate Root Model /DTO Objects (covers the chief complaints, history of present illness, allergies etc. recorded by careprovider during all patient visits at a care provider facility)

(this will be a paginated response)



**getPatientHistoryDetailByPatientID**

Method Type– Get

Request parameter – providerPatientId

response – List of patient history Value Objects

(this will be a paginated response)

**getPatientAllergiesByPatientID**

Method Type– Get

Request parameter – providerPatientId

response – List of patientAllergy Value Objects

(this will be a paginated response)

**getPatientChiefComplaintsByPatientID**

Method Type– Get

Request parameter – providerPatientId

response – List of patient ChiefComplaint Value Objects

(this will be a paginated response)

**getPatientClinicalHistoryByPatientID**

Method Type– Get

Request parameter – providerPatientId

response – List of patient ClinicalHistory Value Objects

(this will be a paginated response)

**getPatientSubjectiveClinicalNotesByPatientID**

Method Type– Get

Request parameter – providerPatientId,uniqueFacilityIdentificationNumber

response – List of patient ClinicalNotes Value Objects

(this will be a paginated response)

**createPatientSubjective**

Method Type– POST

Request parameter

String episodeId

String encounterId

String providerPatientId

List<ChiefComplaint> chiefComplaints

List<HistoryOfPresentIllness> historyOfPresentIllness

List<History> patientHistory

List<ClinicalNote> clinicalNotes

List<PatientAllergy> patientAllergies

String uniqueFacilityIdentificationNumber

response – HTTP Status 201(created) , subjectiveId

**updatePatientSubjective**

Method Type– PUT

Request parameter

String subjectiveId

String episodeId

String encounterId

String providerPatientId

List<ChiefComplaint> chiefComplaints

List<HistoryOfPresentIllness> historyOfPresentIllness

List<History> patientHistory

List<ClinicalNote> clinicalNotes

List<PatientAllergy> patientAllergies

String uniqueFacilityIdentificationNumber

response – HTTP Status 200(ok)

**Commands**

**Patient Subjective Consultation Microservice will be capable of handling Two types of commands**

**1. CreatePatientSubjectiveConsultationCommand()**

**parameters** -

String episodeId

String encounterId

String providerPatientId

List<ChiefComplaint> chiefComplaints

List<HistoryOfPresentIllness> historyOfPresentIllness

List<History> patientHistory

List<ClinicalNote> clinicalNotes

List<PatientAllergy> patientAllergies

String uniqueFacilityIdentificationNumber

Mode - Synchronous

**2. UpdatePatientSubjectiveConsultationCommand**

**parameters –**

String subjectiveId

String episodeId

String encounterId

String providerPatientId

List<ChiefComplaint> chiefComplaints

List<HistoryOfPresentIllness> historyOfPresentIllness

List<History> patientHistory

List<ClinicalNote> clinicalNotes

List<PatientAllergy> patientAllergies

String uniqueFacilityIdentificationNumber

Mode - Synchronous

(There will be soft Delete and no hard delete if an entry need to be deleted in subjective section and for soft deletion the updatePatientSubjeciveConsultationCommand will be used which will set the active flag under each entity as false)

**Events Published**

**Channel – Patient SubjectiveConsultation event channel**

**Patient SubjectiveConsultation microservice will have two events**

1. PatientSubjectiveCreatedEvent

Data structure of PatientSubjectiveCreatedEvent object

String episodeId;

String encounterId;

String patientId;

List<ChiefComplaints> ChiefComplaints;

List<HistoryofPresentIllness> historyofPresentIllness;

List<History> history;

List<PatientAllergy> patientAllergies

List<ClinicalNote> clinicalNotes

1. PatientSubjectiveUpdatedEvent

Data structure of PatientSubjectiveCreatedEvent object

String subjectiveId;

String episodeId

String encounterId

String providerPatientId

List<ChiefComplaint> chiefComplaints

List<HistoryOfPresentIllness> historyOfPresentIllness

List<History> patientHistory

List<ClinicalNote> clinicalNotes

List<PatientAllergy> patientAllergies

String uniqueFacilityIdentificationNumber

`

**Queries**

**The Registration service will be capable of handling four different types of Queries:**

1. getSubjectiveByEncounterId

Parameter - encounterId

1. getSubjectiveConsultationDetailBySubjectiveId

Parameter - subjectiveId

1. getSubjectiveConsultationDetailByPatientId

Parameter - patientId

(this is a paginated query)

1. getSubjectiveByEpisodeId

Parameter - episodeId

(this is a paginated query)

**Dependencies**

|  |  |
| --- | --- |
| **Invokes** | **Subscribes To** |
| Patient Registration Microservice  **getPatientByFacilityAssignedTemporaryRegistrationNumber()**  Visit Microservice  **getPatientVisitByEncounterId()** | Visit Microservice  **EncounterCheckedIn Event**  PatientRegistration Microservice  **PatientRegistrationCreated Event** (to record patient history)  Billing Microservice (TBD)  **Billing Performed Event** |