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| **Seasonal Flu 2021/22 Vaccination**  **Technical specification for Supplier to NHS Digital delimited extract** |

Current Version: v2.3 Approved

Version Date: 29/09/2021

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# Document Management

## Revision History

|  |  |  |
| --- | --- | --- |
| Version | Date | Summary of Changes |
| 0.1 | 09Sep20 | Initial draft |
| 0.2 | 09Sep20 | Uplifted following initial review feedback |
| 1.0 | 09Sep20 | Baselined version |
| 2.0 | 17Sep20 | Appendix A Updated to include additional guidance on population of VACCINE\_PRODUCT\_CODE using indicative flu examples |
| 2.1 | 06Jul21 | Spec updated for capturing Pregnancy details in Indication\_Code & Indication\_Term fields |
| 2.2 | 09Jul21 | Spec uplifted following 09-July-2021 review feedback  The M/CM/R/O column updated to ‘**CM’** this was previously ‘R’  Data Ref 7: DATE\_AND\_TIME  Data Ref 16: REPORT\_ORIGIN  Data Ref 19: VACCINATION\_SITUATION\_CODE  Data Ref 25: VACCINE\_PRODUCT\_CODE  The M/CM/R/O column updated to ‘**M’** this was previously ‘R’  Data Ref 5: PERSON\_GENDER\_CODE  Data Ref 6: PERSON\_POSTCODE  INDICATION\_CODE – Requirement to capture Pregnancy details with the SNOMED code is added, if the patient is pregnant.  INDICATION\_TERM – Requirement to capture Pregnancy details with the SNOMED code is added if the patient is pregnant.  Default SNOMED code to use for VACCINE\_PRODUCT\_CODE, Where the vaccine product code information has not been provided or not known is updated in the guidance.  Appendix section is updated for latest SNOMED codes for the below fields:   1. REPORT\_ORIGIN 2. VACCINATION\_SITUATION\_CODE 3. VACCINE\_PRODUCT\_CODE 4. INDICATION\_CODE 5. INDICATION\_TERM |
| 2.3 | 29Sep21 | Amendment to VACCINATION\_PROCEDURE\_CODE/TERM in Appendix A |

## Approved by

This document must be approved by the following people:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Signature | Title | Date | Version |
| T&D Design Authority |  | Design Authority Representatives | 20/07/2021 | 2.1 |
| NHSD Clinical Advisor |  | Clinician, NHS v 9/7/21 | 19/07/2021 | 2.2 |
| Phase 3 Programme Solution Architect |  | Phase 3 Programme Solution Architect | 29/09/2021 | 2.3 |

# Purpose of Document

This document defines a file extract specification for provision of vaccination information (for seasonal flu) to NHS Digital.

The intention is that this specification is healthcare setting agnostic, so can be used to support flow of information relating to vaccination activity across Community Pharmacy, GP, Health and Justice (MOJ) healthcare settings for example.

Each of the data items required is detailed together with details on how the data should be formatted.

The document is intended to be used by both:

1. Developers in organizations supplying vaccination information to NHS Digital, as part of the extract creation process
2. Developers in NHS Digital, as input into the downstream design of the ingestion process, once the extract has landed within the NHS Digital boundary

Any changes or enhancements to the specification is subject to Change Control.

Design considerations as to file transfer mechanism (e.g. MESH) are not in scope of this document.

# Introduction

The national flu immunisation programme 2021 to 2022 requires IT system providers to support the seasonal flu effort by providing NHS Digital with a new feed of data to support take-up of the flu vaccine. Flu data is likely to be persisted beyond this season per business requirements that we have documented.

# Data File Format

This section defines the required format of the file extract that organizations (System Suppliers) will provide to NHS Digital

## Filename Format

The filenames of the exported data files **must** be formatted by concatenating the following together with the underscore character as the delimiter:

* The data file type fixed as “Vaccinations”
* The sending organisation code as agreed with NHS Digital
* The timestamp of the export in format YYYYMMDDThhmmsszz
  + YYYY = Year
  + MM = Month (01-12)
  + DD = Date (01-31)
  + T = fixed value of “T”
  + hh = Hours (00-23)
  + mm = Minutes (00-59)
  + ss = Seconds (00-59)
  + time zone offset = 00 for GMT, 01 for BST

The file extension will be “.csv”

For example:

Vaccinations\_ABC123\_20201014T10081501.csv

## File Header

Each data file **must** contain a header row containing the field names delimited by a pipe character. The field names must be the same as those specified in the next section.

For example:

NHS\_NUMBER|PERSON\_FORENAME|PERSON\_SURNAME|PERSON\_DOB|PERSON\_GENDER\_CODE|PERSON\_POSTCODE|DATE\_AND\_TIME|SITE\_CODE|UNIQUE\_ID|ACTION\_FLAG|PERFORMING\_PROFESSIONAL\_FORENAME|PERFORMING\_PROFESSIONAL\_SURNAME|SDS\_JOB\_ROLE\_NAME|RECORDED\_DATE|PRIMARY\_SOURCE|REPORT\_ORIGIN|VACCINATION\_PROCEDURE\_CODE|VACCINATION\_PROCEDURE\_TERM|VACCINATION\_SITUATION\_CODE|VACCINATION\_SITUATION\_TERM|NOT\_GIVEN|REASON\_NOT\_GIVEN\_CODE|REASON\_NOT\_GIVEN\_TERM|DOSE\_SEQUENCE|VACCINE\_PRODUCT\_CODE|VACCINE\_PRODUCT\_TERM|VACCINE\_MANUFACTURER|BATCH\_NUMBER|SITE\_OF\_VACCINATION\_CODE|SITE\_OF\_VACCINATION\_TERM|ROUTE\_OF\_VACCINATION\_CODE|ROUTE\_OF\_VACCINATION\_TERM|DOSE\_AMOUNT|DOSE\_UNIT\_CODE|DOSE\_UNIT\_TERM|INDICATION\_CODE|INDICATION\_TERM

## File Footer

A file footer must **not** be submitted

## Field Delimiter

Each field in the data files **must** be enclosed within double quotes and delimited by a pipe character “|”. Pipe characters cannot appear within a data field.

Where this is no value (null) present, this will be represented as two consecutive delimiter characters (i.e. with no space character used), e.g. in the following, fields 2 and 8 have missing (null) values:

“The”||”Brown”|”Fox”|”Jumped”|”Over”|”The”||”Dog”

## Record Delimiter

Each record (i.e. row) in the data files **must** be terminated by the CR and LF characters.

## Character values

**String values**

Strings should contain printable alphanumeric characters only

**Escape characters**

All double quote characters within the data MUST be escaped with the backslash “\” character

## Date Time Formats

To avoid misunderstanding, where date time fields are used within the file, the following format should be used (characters such as : + - should not be included)

YYYYMMDDThhmmsszz

* The values to be used are as follows:
  + YYYY = Year
  + MM = Month (01-12)
  + DD = Date (01-31)
  + T = fixed value of “T”
  + hh = Hours (00-23)
  + mm = Minutes (00-59)
  + ss = Seconds (00-59)
  + time zone offset = 00 for GMT, 01 for BST

# Data File Definition

Mandatory (M) – field **must** be populated

Conditionally Mandatory (CM) - field **must** be populated where guidance notes below instruct it

Required (R) – field **must** be populated, but **only where data is available** and **guidance notes below instruct it**

Optional (O) – Supplier may choose to include this, where data is available

Note: Only factually correct information must be submitted

## Vaccination Data Items

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Pos | Field Name | Data Type | Length / format / values | M/CM/R/O | Notes |
| 1 | NHS\_NUMBER | String | 10 | R | **Every effort should be made to populate this, where possible**.  Will be used to uniquely identify the patient. **When supplied will be validated immediately prior to submission.** Should be supplied without any padding spaces. |
| 2 | PERSON\_FORENAME | String |  | M | Patient Forename as registered on PDS. This will be one name only. This is needed for clinical safety. |
| 3 | PERSON\_SURNAME | String |  | M | Patient Surname as registered on PDS. This is needed for clinical safety. |
| 4 | PERSON\_DOB | Date | YYYYMMDD | M | Patient date of birth. This is needed for clinical safety. |
| 5 | PERSON\_GENDER\_CODE | String | Use national codes from  https://datadictionary.nhs.uk/attributes/person\_gender\_code.html  Use one of the following:  0 Not Known  1 Male  2 Female  9 Not Specified | M | Patient administrative gender. Where NHS\_NUMBER cannot be populated, this field must be populated. |
| 6 | PERSON\_POSTCODE | String | Up to 8  As well as actual post codes, the following are to be used in other scenarios  ZZ99 3VZ No Fixed Abode  ZZ99 3WZ Address Not Known  ZZ99 3CZ (England/UK) Address not otherwise specified  The full list is currently available here: <https://www.england.nhs.uk/wp-content/uploads/2020/04/cam-2021-guidance-v2.1.pdf> | M | Patient postcode. Value should be divided into two parts (inward & outward) separated by a single space, e.g. EC1A 1BB |
| 7 | DATE\_AND\_TIME | Date time | YYYYMMDDThhmmsszz  20201214T10081500  Where timezone information is not available in the source system:  a) the timezone (zz) element can be omitted, e.g.  20201214T100815  b) alternatively, a hardcoded static value of "00" can be provided, e.g.  20201214T10081500  Where time is not captured in the source system, all the time elements can be populated with a zero, e.g.  20201214T00000000 | CM | Mandatory where PRIMARY\_SOURCE=TRUE  The date and time on which the vaccination intervention was carried out or was meant to be administered |
| 8 | SITE\_CODE | String |  | M | The Site Code (e.g. ODS/ORD) of where the vaccination took place |
| 9 | UNIQUE\_ID | String |  | M | A unique identifier for the vaccination record, that is consistent between any subsequent update or delete records.  Ideally this would be a GUID / UUID |
| 10 | ACTION\_FLAG | String | new / update / delete | M | Indication if the record is new, or has been re-submitted following an update or delete to one previously provided |
| 11 | PERFORMING\_PROFESSIONAL\_FORENAME | String |  | O | Forename of Professional performing/recording the vaccination. This will be one name only. |
| 12 | PERFORMING\_PROFESSIONAL\_SURNAME | String |  | O | Surname of Professional performing/recording the vaccination |
| 13 | SDS\_JOB\_ROLE\_NAME | String |  | O | The job role associated with the professional |
| 14 | RECORDED\_DATE | Date | YYYYMMDD | R | The date that the vaccination administered (procedure) or not administered (situation) was recorded in the source system |
| 15 | PRIMARY\_SOURCE | Boolean | TRUE / FALSE | M | An indication that the content of the record is based on information from the person who administered the vaccine. This reflects the context under which the data was originally recorded. E.g. where data has been captured directly in the source system PRIMARY\_SOURCE=TRUE, where it has not (e.g. it has been reported) then PRIMARY\_SOURCE=FALSE |
| 16 | REPORT\_ORIGIN | String | Code value from <http://hl7.org/fhir/stu3/valueset-immunization-origin.html>  or free text | CM | Mandatory where PRIMARY\_SOURCE=FALSE. The source of the data when the report of the vaccination event is not based on information from the person who administered the vaccine. |
| 17 | VACCINATION\_PROCEDURE\_CODE | String | SNOMED Concept Id | R | Required where NOT\_GIVEN=FALSE and PRIMARY\_SOURCE=TRUE.  Vaccine that was administered (procedure).  Refer to Appendix A |
| 18 | VACCINATION\_PROCEDURE\_TERM | String | SNOMED Term  or free text | R | Required where NOT\_GIVEN=FALSE  Vaccine that was administered (procedure)  Refer to Appendix A |
| 19 | VACCINATION\_SITUATION\_CODE | String | SNOMED Concept Id | CM | Mandatory where NOT\_GIVEN=TRUE  A reason why a vaccination was not administered (situation)  Refer to Appendix A |
| 20 | VACCINATION\_SITUATION\_TERM | String | SNOMED Term | R | Required where NOT\_GIVEN=TRUE  A reason why a vaccination was not administered (situation)  Refer to Appendix A |
| 21 | NOT\_GIVEN | Boolean | TRUE / FALSE | M | Flag to indicate if the vaccination was NOT given by a heath care professional |
| 22 | REASON\_NOT\_GIVEN\_CODE | String | SNOMED Concept Id | R | Required where NOT\_GIVEN=TRUE  A reason why a vaccination was not administered  Refer to Appendix A |
| 23 | REASON\_NOT\_GIVEN\_TERM | String | SNOMED Term  Or free text | R | Required where NOT\_GIVEN=TRUE  A reason why a vaccination was not administered  Refer to Appendix A |
| 24 | DOSE\_SEQUENCE | String | 1, 2 etc | R | Nominal position in a series of vaccines |
| 25 | VACCINE\_PRODUCT\_CODE | String | dm+d (SNOMED) Concept ID | CM | Mandatory where NOT\_GIVEN=FALSE and PRIMARY\_SOURCE=TRUE.  Where the vaccine product code information has not been provided or not known, suppliers MUST use SNOMED **46233009** as the default value. Only AMP codes need to be provided (unless using the **46233009** value).  Refer to Appendix A |
| 26 | VACCINE\_PRODUCT\_TERM | String | dm+d (SNOMED) Concept Term  or free text | R | Vaccine product administered  Refer to Appendix A |
| 27 | VACCINE\_MANUFACTURER | String |  | R | Manufacturer of vaccine product |
| 28 | BATCH\_NUMBER | String | Batch or Lot number as supplied by the manufacturer | R | The Batch/Lot number of the vaccine. |
| 29 | SITE\_OF\_VACCINATION\_CODE | String | SNOMED Concept Id | R | Body site vaccine was administered into.  A SNOMED Concept ID value from UK published reference set “Vaccine body site of administration simple reference set” (1127941000000100) should be used |
| 30 | SITE\_OF\_VACCINATION\_TERM | String | SNOMED Term | R | Body site vaccine was administered into.  A SNOMED Term value from UK published reference set “Vaccine body site of administration simple reference set” (1127941000000100) should be used |
| 31 | ROUTE\_OF\_VACCINATION\_CODE | String | SNOMED Concept Id | R | How vaccine entered the body  A SNOMED concept ID value from either of the following should be used:  UK “ePrescribing route of administration simple reference set (foundation metadata concept)” (999000051000001100)  Or:  UK published reference set “Vaccine route of administration simple reference set” (115231000001104) |
| 32 | ROUTE\_OF\_VACCINATION\_TER | String | SNOMED Term | R | How vaccine entered the body  A SNOMED Term value from either of the following should be used:  UK “ePrescribing route of administration simple reference set (foundation metadata concept)” (999000051000001100)  Or:  UK published reference set “Vaccine route of administration simple reference set” (115231000001104) |
| 33 | DOSE\_AMOUNT | String | Free text (max 3) | O | Amount of vaccine administered. For example: 1 |
| 34 | DOSE\_UNIT\_CODE | String | dm+d (SNOMED) Concept ID | O | A dm+d (SNOMED) Concept ID value representing the Unit of measure used.  For example 3318611000001103 |
| 35 | DOSE\_UNIT\_TERM | String | dm+d (SNOMED) Term | O | A dm+d (SNOMED) Term value representing the Unit of measure used.  For example “pre-filled disposable injection” |
| 36 | INDICATION\_CODE | String | SNOMED Concept ID | R | Required where NOT\_GIVEN=FALSE  Where the individual has presented for a flu vaccination because they are pregnant, suppliers MUST provide a SNOMED Concept Id value representing the clinical indication of Pregnancy. i.e., **77386006**.  If there is no clinical indication of Pregnancy then the value can be left **blank.** |
| 37 | INDICATION\_TERM | String | SNOMED Term or free text | R | Required where NOT\_GIVEN=FALSE.  Where the individual has presented for a flu vaccination because they are pregnant, suppliers MUST provide a SNOMED Concept Id value representing the clinical indication of Pregnancy. i.e., **Pregnancy (finding)**  If there is no clinical indication of Pregnancy then the value can be left **blank.** |

## Generic Validations

Below are the generic validations performed across fields in the data file, wherever applicable:

1. SNOMED codes must be numeric only, and of length 6 to 18 chars.
2. For all the date fields, validation of future dates is conducted, wherever applicable. For example DATE\_AND\_TIME/PERSON\_DOB must not be a future date.

Where any of these validations is not met, that row will be invalidated by NHS Digital and will therefore not be processed in the wider national architecture.

# Appendix A – flu

## Flu example file



For seasonal flu vaccination, the following are suggested values for some of the various fields.

## SNOMED Codes References:

**REPORT\_ORIGIN**

**Please use the suggested “Code” value below or Free Text for REPORT\_ORIGIN.**

|  |  |  |
| --- | --- | --- |
| **Code** | **Display** | **Description** |
| [provider](http://hl7.org/fhir/stu3/codesystem-immunization-origin.html#immunization-origin-provider) | Other Provider | The data for the immunization event originated with another provider. |
| [record](http://hl7.org/fhir/stu3/codesystem-immunization-origin.html#immunization-origin-record) | Written Record | The data for the immunization event originated with a written record for the patient. |
| [recall](http://hl7.org/fhir/stu3/codesystem-immunization-origin.html#immunization-origin-recall) | Parent/Guardian/Patient Recall | The data for the immunization event originated from the recollection of the patient or parent/guardian of the patient. |
| [school](http://hl7.org/fhir/stu3/codesystem-immunization-origin.html#immunization-origin-school) | School Record | The data for the immunization event originated with a school record for the patient. |

**VACCINATION\_PROCEDURE\_CODE & VACCINATION\_PROCEDURE\_TERM**

955651000000100 | Seasonal influenza vaccination given by other healthcare provider (situation) |

884861000000100 Administration of first intranasal seasonal influenza vaccination (procedure)

**VACCINATION\_SITUATION\_CODE & VACCINATION\_SITUATION\_TERM**

822931000000100 Seasonal influenza vaccination declined (situation)

63281000000106 First intranasal seasonal influenza vaccination not done (situation)

**REASON\_NOT\_GIVEN\_CODE & REASON\_NOT\_GIVEN\_TERM**

A value from <https://fhir.hl7.org.uk/STU3/ValueSet/CareConnect-ReasonImmunizationNotAdministered-1>, as per the following

201741000000102 Did not attend child immunisation (finding)

213257006 Generally unwell (finding)

266758009 Immunization contraindicated (situation)Immunization contraindicated (situation)

310376006 Immunization consent not given (finding) Immunization consent not given (finding)

281399006 Did not attend (finding)

**VACCINE\_PRODUCT\_CODE & VACCINE\_PRODUCT\_TERM**

34680411000001107 Quadrivalent influenza vaccine (split virion, inactivated) suspension for injection 0.5ml pre-filled syringes (Sanofi Pasteur)

35726811000001104 Influenza Tetra MYL vaccine suspension for injection 0.5ml pre-filled syringes (Mylan)

35727111000001109 Influvac sub-unit Tetra vaccine suspension for injection 0.5ml pre-filled syringes (Mylan)

36509011000001106 Flucelvax Tetra vaccine suspension for injection 0.5ml pre-filled syringes (Seqirus UK Ltd)

38973211000001108 Fluad Tetra vaccine suspension for injection 0.5ml pre-filled syringes (Seqirus UK Ltd)

39566211000001103 Supemtek Quadrivalent vaccine (recombinant) solution for injection 0.5ml pre-filled syringes (Sanofi Pasteur)

Only AMP level code can be used.

The following are indicative examples of dm+d (SNOMED) Concept ID / Terms for the flu 2021 season, taken from the example spreadsheet below:

