Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

COVID-19

Dataset Specification

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Contents

Document Control

Revision History

Version	Author	Date	Changes
0.1 Draft	Theresa Barry		Initial Draft
0.2 Draft	Theresa Barry, Helen Lambert, Prof. Richard Greene, Dr Conor O Shea, Dr Kevin O Carroll		Updated with feedback from SNOMED Governance Board Chair
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Review & Approval

Name	Version Signed off	Sign off Date
SNOMED Goverance Board	*0.3*	*15/04/2020*
Data Specification Management Process	*0.3*	*16/04/2020*

References / Related Documents

Document Name	Document Link eHealth Ireland
Dataset Specification Management Process Terms of Reference • Implementing a Flu Protection Campaign in a Community Setting HSE • WHO guidance for surveillance during an influenza pandemic • WHO COVID-19 technical guidance: Surveillance and case definitions • HSE Health Protection Surveillance Centre WHO case report form for COVID-19 • HSE Covidcare Tracker Outline (appendix 1)	

1 Introduction

This is a dataset specification for the patient assessment data set for Assessment, Testing, Contact Tracing & Management through the HSE CovidCare Tracker (CCT) and Patient Hub Management during the COVID-19 pandemic.This has been developed by the Irish National Release Centre (NRC)

1.1   Purpose

This document has been produced in direct response to the COVID-19 pandemic. The dataset specification is designed to ensure that all patient assessments for COVID-19 are consistently and completely recorded to enable properly informed health service response, tracing, tracking, surveillance and analytics.

1.2   Scope

This dataset specification sets out the minimum data set needed to record administrative, demographic and clinical information for patients assessed for COVID-19.

The dataset specification is consistent with WHO pandemic reporting guidelines and forms the pandemic minimum data set for COVID-19 in Ireland.

The requirements are for structured and coded data wherever possible, because this has the maximum utility for data analysis.

The dataset specification is limited to clinical assessment, contact tracing and patient management, and to laboratory reporting.
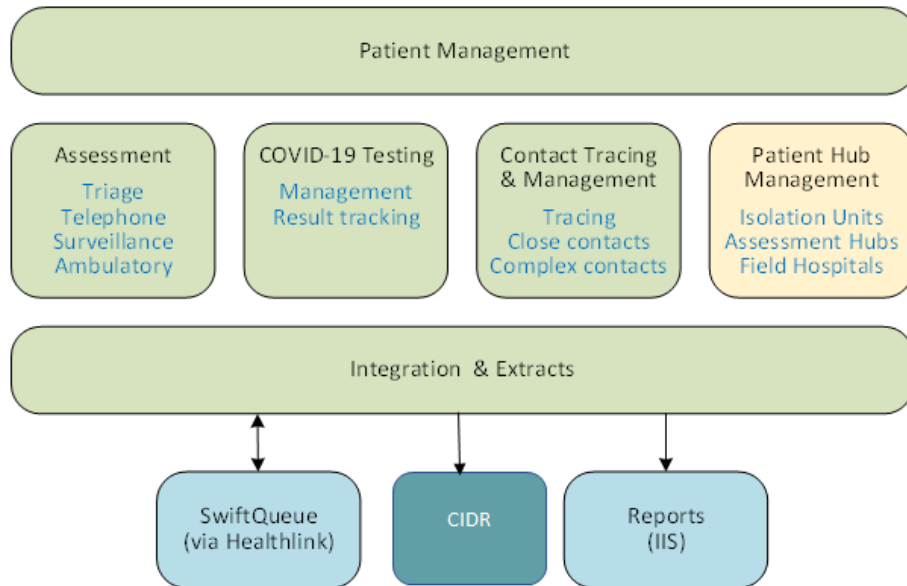
This document has been created with assistance from New Zealand, the Netherlands and SNOMED International.

1.3   Background documents

- WHO guidance for surveillance during an influenza pandemic
- WHO COVID-19 technical guidance: Surveillance and case definitions
- HSE Health Protection Surveillance Centre WHO case report form for COVID-19
- HSE Covidcare Tracker Outline (Appendix 1)

2 Dataset Specification

This section presents the required data elements to be recorded for each patient presenting at these 4 areas for Assessment, Testing, Contact Tracing & Management and Patient Hub Management.

All other data elements are defined in this document using the following form based on *ISO/IEC 11179 Information Technology – Metadata Registries (MDR).*[2]

Name	Data element name
Definition	A statement that expresses the essential nature of the data element and its differentiation from other elements in the data set.
Source standards	Established data definitions or guidelines pertaining to the data element.
Data domain	The valid values or codes that are acceptable for the data element. Each coded data element has a specified code set.
	Code sets use the SNOMED CT clinical terminology standard where possible. Enumerated SNOMED concepts are denoted by preferred term and linked to descriptions in the **SNOMED International browser**.
Obligation	Indicates if the data element is mandatory or optional in the context, or whether its appearance is conditional.
Guide for use	Additional guidance to inform the use of the data element, including verification rules.

2.1   Provider and facility details

The identity of the Covidcare Tracker (CCT) is recorded with each patient assessment. GP's are registered as facilities in Healthlink and will be identified in this way, while others will be identified by name alone.

The facilities within CCT include: isolation facilities, Community Assessment Hubs testing centres, hospitals and intermediate care facilities, PHO's, CHO's and other organisations.

2.2   Provider identifier

IHI , MRN and other organisational identifiers for the provider operating the CCT.

The COVID ID will also be used. See **HSE Health Protection Surveillance Centre** for details.

Mandatory data element.

2.2.1 Provider Name

The name of the provider organisation operating the CCT.

Mandatory data element.

2.2.2 Facility Identifier

Facility code unique to the CCT.

Every CCT registered as a facility in Healthlink system will be recorded using the Healthlink identifier. All other facilities will need to be identified by a name or location description alone, using the 'facility name' data element.

Optional data element.

2.2.3 Facility Name

For every Healthlink registered facility, use the CCT's name as recorded in the Healthlink system. Every other CCT must have an agreed name or free text location description that is recorded consistently.

Mandatory data element.

2.2.4 Patient Details

All patients presenting to the CCT will have their details populated from Healthlink/Swiftqueue or directly.

2.2.5 Patient Identifier

Use the COVID ID, IHI, MRN.

Mandatory data element.

2.2.6 Patient Name

The patient's legal first name and surname.

See **HIQA National standard demographic dataset and guidance for use in health and social care settings in Ireland**.

Mandatory data element.

2.2.7 Birth Date

The date of birth provided by the patient on presentation to indicate the day, month and year of their birth.

See **HIQA National standard demographic dataset and guidance for use in health and social care settings in Ireland**.

The date of birth should follow the following format: dd/mm/yyyy.
Mandatory data element.

2.2.8 Gender

Code used to identify the patient's gender: male, female, other.

The patient may also wish to have a textual description recorded.

Mandatory data element.

2.2.9 Language Interpreter

IN CCT language interpreter –

Concept id	Fully Specified Name	en-GB Preferred Term	Edition
297475001	Irish Gaelic language (qualifier value)|	|Irish Gaelic language	International Edition 20200309
297324003	Arabic language (qualifier value)|	Arabic language	International Edition 20200309
297876005	Chinese language (qualifier value)|	Chinese language	International Edition 20200309
297499001	|French language (qualifier value)|	|French language	International Edition 20200309
297508003	Romanian language (qualifier value)|	Romanian language	International Edition 20200309
297490002	German language (qualifier value)	German language	International Edition 20200309
297523008	Polish language (qualifier value)	Polish language	International Edition 20200309
297469005	Lithuanian language (qualifier value)	Lithuanian language	International Edition 20200309
7504001	Portuguese language (qualifier value)	Portuguese language	International Edition 20200309
297510001		Spanish language (qualifier value)	Spanish language	International Edition 20200309

Other Language (if none of the above)

Mandatory data element.

2.2.10   GP Practice

The GP Medical Council Number and Healthlink Practice ID.

Optional data element.

2.2.11 Residential Address and Temporary Address (holiday home, hotel)

This is the full residential address for the patient, either permanently or as an overseas visitor.

See **HIQA National standard demographic dataset and guidance for use in health and social care settings in Ireland**.

Mandatory data element.

2.2.12 Contact Phone Number

This number is the direct contact in order to reach the patient.

International call prefix: 00
Country calling code: +353
Trunk prefix: 0
Typical format: (0xx) xxx xxxx

Contact phone number and/or email address is required.

2.2.13 Patient's Occupation

Name	Occupation
Definition	The patient's declared occupation
Source standards	Free text
Data domain	
Obligation	Optional
Guide for use	

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2.3   Clinical assessment details

2.3.1   Clinical Assessment Details

Name	Assessment date/time
Definition	Date and time the patient received an assessment
Source standards	ISO 8601-1:2019 *Date and time. Representations for information interchange – Part 1: Basic rules*
Data domain	Date/time
Obligation	Mandatory
Guide for use	

2.3.2 Clinical Assessment Outcome

This outcome identifies whether the patient matches the Minister of Health case definition and clinical description for COVID-19.

Record *Suspected COVID-19* if the patient matches the clinical description and record *COVID-19* if there is a confirmed diagnosis.

See information on recording COVID-19 cases

SNOMED CT concept and term

840539006 | COVID-19 |

840544004 | Suspected COVID-19 |

840546002 | Exposure to SARS-CoV-2 |

 The new SNOMED concepts and terms are included in the **SNOMED CT International Edition March 2020 release**.

2.3.3 Exposure Confirmed

Flag whether the patient has had exposure to a confirmed case. If so, record the details in narrative text.

Name	COVID-19 exposure
Definition	Whether the patient has had exposure to a confirmed case of COVID-19
Source standards	
Data domain	Boolean
Obligation	Mandatory
Guide for use	

2.3.4 Recent Travel Abroad

Record whether patient has recently travelled overseas.

Name	Recent overseas travel
Definition	Flag indicating whether the assessment outcomes are associated with recent overseas travel (within 14 days)
Source standards	
Data domain	Boolean
Obligation	Mandatory
Guide for use	

Mandatory data element.

This dataset specification does not cover contact tracing or travel history. However, note that at a minimum it will be necessary to record town/city/country/airport, flight number, seat number and date information for all international and local travel.

2.3.5 Date of First Symptoms

Name	Date of first symptoms
Definition	Date first symptoms of COVID-19 occurred
Source standards	
Data domain	Boolean
Obligation	Mandatory
Guide for use	

2.3.6 Date Start Isolation

Name	Date Start isolation
Definition	Flag the start date of self isolation
Source standards	
Data domain	Boolean
Obligation	Mandatory
Guide for use	

2.3.7 Recent Overseas Travel

Name	Recent overseas travel
Definition	Flag indicating whether the assessment outcomes are associated with recent overseas travel (within 14 days)
Source standards	
Data domain	Boolean
Obligation	Mandatory
Guide for use	

2.3.8 Admission to Hospital /ICU

Admission to hospital/ICU			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
305351004	Admission to intensive care unit (procedure)|	Admission to intensive care unit	
732485007	Hospital admission (procedure)|	Hospital admission	
399423000	Date of admission (observable entity)	Date of admission	

2.3.9 Symptoms

Symptoms represent physical or mental features which are regarded as an indication of a condition or disease, particularly those features that are apparent to the patient. This SNOMED CT subset of COVID-19 symptoms has been developed based on a review of relevant Pubmed literature.

Name	Symptom
Definition	Symptom
Source standards	
Data domain	SNOMED CT finding/disorder (as above)
Obligation	Mandatory
Guide for use	

COVID-19 Symptoms subset			
Intensional Definition: << ^ |Covid-19 symptoms reference set|			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
386661006	Fever (finding)	Fever	International Edition 20200309
49727002	Cough (finding)	Cough	International Edition 20200309
267036007	Dyspnoea (finding)	Dyspnoea	International Edition 20200309
162397003	Pain in throat (finding)	Pain in throat	International Edition 20200309
84229001	Fatigue (finding)	Fatigue	International Edition 20200309
367391008	Malaise (finding)	Malaise	International Edition 20200309
25064002	Headache (finding)	Headache	International Edition

			20200309
62315008	Diarrhoea (finding)	Diarrhoea	International Edition 20200309
66857006	Haemoptysis (finding)	Haemoptysis	International Edition 20200309
68962001	Muscle pain (finding)	Muscle pain	International Edition 20200309
426990007	Home oxygen therapy (procedure)	Home oxygen	International Edition 20200309
29857009	Chest pain (finding)	Chest pain	International Edition 20200309
68962001	|Muscle pain (finding)	Myalgia	International Edition 20200309
21522001	Abdominal pain (finding)|	Abdominal pain	International Edition 20200309
28743005	28743005 |Productive cough (finding)|	Producing sputum	International Edition 20200309
16932000	Nausea and vomiting (disorder)|	Nausea and vomiting	International Edition 20200309
64531003	Nasal discharge (disorder)|	Rhinorrhea	International Edition 20200309
79890006	Loss of appetite (finding)|	Loss of appetite	International Edition 20200309
404640003	|Dizziness (finding)|	Dizziness	International Edition 20200309
931000119107	Dependence on supplemental oxygen (finding)	Dependence on supplemental oxygen	International Edition 20200309

609328004	Allergic disposition (finding)|	Allergy	International Edition 20200309
417430008	Vulnerable adult (finding)|	Vulnerable adult	International Edition 20200309
160877008	Child at risk (finding)|	Child at risk	International Edition 20200309
22032002 |Family-related social factor (finding)|	Family-related social factor (finding)|	Family-related social factor	

2.3.10   Severity

Severity represents the quality of the condition. Severity may be recorded for each symptom, or as a general statement of their disease state – for example, 24484000 |Severe (severity modifier) (qualifier value)|.

Name	Severity
Definition	Overall severity of symptoms
Source standards	
Data domain	SNOMED CT Symptom severity: • **Mild** – Does not interfere with daily activities • **Moderate –** Somewhat restricts daily activities • **Severe –** Prevents daily activities or taking care of oneself
Obligation	Optional
Guide for use	Do not record if asymptomatic

COVID-19 Severity subset			
Intensional Definition: << 272141005 |Severities (qualifier value)|			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
255604002	Mild (qualifier value)	Mild	International Edition 20200309
6736007	Moderate (severity modifier) (qualifier value)	Moderate	International Edition 20200309

24484000	Severe (severity modifier) (qualifier value)	Severe	International Edition 20200309
442452003	Life threatening severity (qualifier value)	Life threatening severity	International Edition 20200309

2.3.11 Clinical Measurements

Clinical measurements involve the performance of physiological tests to diagnose and refine therapeutic management of an already established disease. The following clinical measurements may be used in the assessment of a COVID-19 patient.

The set of outcomes from clinical measurements taken during the assessment of the patient.

Measurement	Unit of measure
Temperature	˚C
Blood pressure (systolic/diastolic)	mmHg/mmHg
Heart rate	beats per minute (BPM)
Respiratory rate	breaths per minute
Oxygen saturation (SpO2)	percentage

COVID-19 Clinical Measurements subset

Intensional Definition: << ^ |Covid-19 clinical measurements reference set|

Concept id	Fully Specified Name	en-GB Preferred Term	Edition
386725007	Body temperature (observable entity)	• Body temperature	• International Edition 20200309
75367002	Blood pressure (observable entity)	Blood pressure	International Edition 20200309
364075005	Heart rate (observable entity)	Heart rate	International Edition 20200309
86290005	Respiratory rate (observable entity)	Respiratory rate	International Edition 20200309
431314004	Peripheral oxygen saturation	Oxygen saturation (SpO2)	International Edition 20200309
251000220105	National adult early warning system parameter ranges and scoring (observable entity)	National adult early warning system key	*Irish Edition 20200421*
419045004	Loss of consciousness (finding)	Loss of consciousness (finding)	*Irish Edition 20200421*
331000220106	Alert confusion voice pain unresponsive scale (assessment scale	ACVPU scale	*Irish Edition 20200421*
311000220101	National adult early warning system bedside response (procedure)	National early warning system bedside response	*Irish Edition 20200421*
301000220104	National adult early warning system emergency response (procedure)	NEWS emergency response	*Irish Edition 20200421*
417473004	On examination - decreased level of consciousness (finding)	On examination - decreased level of consciousness	*Irish Edition 20200421*

The following observed outcomes are positive or negative indications that signs are present.

Pharyngeal exudate	**Coma**	**Abnormal lung auscultation**
Conjunctival injection	**Dyspnea**	**Abnormal lung x-ray**
Seizure	**Tachypnea**	**Urinalysis/ Neck stifness**

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Each element of the set of positive signs is recorded as follows.

Name	Clinical sign
Definition	Clinical sign
Source standards	
Data domain	SNOMED CT finding/disorder (as above)
Obligation	Mandatory
Guide for use	

2.3.12   Clinical Observations

A clinical observation represents the act of measuring, questioning, evaluating, or otherwise observing a patient or a specimen from a patient in healthcare. The following clinical observations are positive or negative indications that signs are present in a COVID-19 patient.

COVID-19 Clinical Observations subset			
Intensional Definition: << ^ |Covid-19 clinical observations reference set|			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
274710003	Lung field abnormal (finding)	Lung field abnormal	International edition 20200309
442646005	Imaging of lung abnormal (finding)	Imaging of lung abnormal	International edition 20200309
371632003	Coma (disorder)	Coma	International edition 20200309
193894004	Conjunctival hyperaemia (finding)	Conjunctival hyperaemia	International edition 20200309
267036007	Dyspnoea (finding)	Dyspnoea	International edition 20200309
126664009	Exudative pharyngitis (disorder)	Exudative pharyngitis	International edition 20200309
91175000	Seizure (finding)	Seizure	International edition 20200309
271823003	Tachypnea (finding)	Tachypnea	International edition 20200309

2.3.13   Diagnosis

The diagnosis concepts are used to record the opinion reached based on the process of finding out what is causing symptoms, a disease or injury in a patient. COVID-19 diagnoses include both suspected and confirmed diagnoses.

Name	Clinical assessment outcome
Definition	Whether the patient fits the clinical description for COVID-19 or has a confirmed COVID-19 diagnosis
Source standards	
Data domain	SNOMED CT disorder/situation: • **COVID-19** • **Suspected COVID-19**
Obligation	Conditional
Guide for use	Record the situation of *Suspected COVID-19* if the patient fits the clinical description. Record *COVID-19* for a confirmed diagnosis based on lab testing.

COVID-19 Diagnosis subset			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
840539006	Disease caused by severe acute respiratory syndrome coronavirus 2 (disorder)	COVID-19	International Edition 20200309
840544004	Suspected disease caused by severe acute respiratory coronavirus 2 (situation)	Suspected COVID-19	International Edition 20200309
189486241000119100	*Asymptomatic severe acute respiratory syndrome coronavirus 2 infection (finding)*	*Asymptomatic SARS-CoV-2*	*Irish Edition 20200421*
688232241000119100	*Disease caused by severe acute respiratory syndrome coronavirus 2 absent (situation)*	*Disease caused by severe acute respiratory syndrome coronavirus 2 absent*	*Irish Edition 20200421*

2.3.14   Clinical History

The clinical history concepts are used to record information gained by a physician by asking specific questions, either of the patient or of other people who know the person and can give suitable information, with the aim of obtaining information useful in formulating a diagnosis and providing medical care to the patient.

COVID-19 Clinical History subset			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
292508471000119105	*History of disease caused by severe acute respiratory syndrome coronavirus 2 (situation)*	*History of SARS-CoV-2*	*Irish Edition 20200421*

2.3.15   Complications

Complication concepts are used to record a secondary disease or condition aggravating the main thread, in this context the coronavirus disease.

COVID-19 Complications subset			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
373895009	Acute respiratory distress (finding)	Acute respiratory distress	International Edition 20200309
419620001	Death (event)	Death	International Edition 20200309
75570004	Viral pneumonia (disorder)	Viral pneumonia	International Edition 20200309
308906005	Secondary bacterial pneumonia (disorder)	Secondary bacterial pneumonia	International Edition 20200309
67782005	Acute respiratory distress syndrome	Acute respiratory	International Edition

	(disorder)	distress syndrome	20200309
13838941100019105	*Acute bronchitis caused by severe acute respiratory syndrome coronavirus 2 (disorder)*	*Acute bronchitis caused by SARS-CoV-2*	*Irish Edition 20200421*
674814021000119106	*Acute respiratory distress syndrome caused by severe acute respiratory syndrome coronavirus 2 (disorder)*	*Acute respiratory distress syndrome caused by SARS-CoV-2*	*Irish Edition 20200421*
880529761000119102	*Lower respiratory infection caused by severe acute respiratory syndrome coronavirus 2 (disorder)*	*Lower respiratory infection caused by SARS-CoV-2*	*Irish Edition 20200421*
882784691000119100	*Pneumonia caused by severe acute respiratory syndrome coronavirus 2 (disorder)*	*Pneumonia caused by SARS-CoV-2*	*Irish Edition 20200421*
866152006	*Thrombocytopenia associated with severe acute respiratory syndrome coronavirus 2 (disorder)*	*Thrombocytopenia associated with severe acute respiratory syndrome coronavirus 2*	*Irish Edition 20200421*
866151004	*Lymphocytopenia associated with severe acute respiratory syndrome coronavirus 2 (disorder)*	*Lymphocytopenia associated with severe acute respiratory syndrome coronavirus 2*	*Irish Edition 20200421*

2.3.16 Exposure

An exposure event is when an individual comes into close contact with an infected person's contaminated droplets carried in the air or on contaminated hands, surfaces or other objects.

COVID-19 Exposure Event subset			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
840546002	Exposure to severe acute respiratory syndrome coronavirus 2 (event)	Exposure to SARS-CoV-2	International Edition 20200309

2.3.17 Known Risk Factors

Know risk factors are used to record the known patient conditions which may increase the risk of the patient being especially vulnerable to the COVID-19 virus.

Record the patient's medical conditions that are known risk factors.

Each element of the set of medical conditions is recorded as follows.

Name	Medical condition
Definition	Medical condition that is a known risk factor in relation to COVID-19
Source standards	
Data domain	SNOMED CT finding/disorder/situation (as above)
Obligation	Mandatory
Guide for use	

Any other medical conditions of concern may be recorded in the same way. An empty set represents an absence of any medical conditions of concern.

COVID-19 subset			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Edition**
17097001	Chronic disease of respiratory system (disorder)	Chronic respiratory system disease	International Edition 20200309
195967001	Asthma (disorder)	Bronchial hypersensitivity	International Edition 20200309
13213009	Congenital heart disease (disorder)	CHD - Congenital heart disease	International Edition 20200309

128238001	Chronic heart disease (disorder)	Chronic heart disease	International Edition 20200309
38341003	Hypertensive disorder, systemic arterial (disorder)	Hypertensive disorder	International Edition 20200309
234532001	Immunodeficiency disorder (disorder)	Immunodeficiency disorder (disorder)	International Edition 20200309
128283000	Chronic nervous system disorder (disorder)	Chronic nervous system disorder	International Edition 20200309
73211009	Diabetes mellitus (disorder)	Diabetes mellitus	International Edition 20200309
709044004	Chronic kidney disease (disorder)	Chronic kidney disease	International Edition 20200309
328383001	Chronic liver disease (disorder)	Chronic liver disease	International Edition 20200309
77386006	Pregnant (finding)	Pregnant	International Edition 20200309
414915002	Obese (finding)	Obese	International Edition 20200309
6383007	Premature labour (finding)	Premature labour	International Edition 20200309
78648007	At risk for infection (finding)	At risk for infection	International Edition 20200309
234532001	Immunodeficiency disorder (disorder)|	Immunodeficiency disorder	International Edition 20200309
77176002	Smoker (finding)	Smoker	International Edition 20200309
8517006	Ex-smoker (finding)|	Ex-smoker	International Edition 20200309
8392000	Non-smoker (finding)|	Non-smoker	International Edition 20200309
266987004	History of malignant neoplasm (situation)	History of cancer	International Edition 20200309
38341003		Hypertensive disorder, systemic arterial	High Blood pressure	International Edition 20200309
266987004		History of malignant neoplasm (situation)|	History of cancer	International Edition 20200309

2.3.18 Comorbidities

Comorbidities are additional medical conditions of concern.

COVID-19 subset
Intensional Definition: < 404684003 |Clinical finding (finding)| MINUS < 307824009 |Administrative statuses (finding)|

2.3.19 Pregnancy

Record trimester for current pregnancy or whether postpartum less than six weeks.

Name	Pregnancy
Definition	Current pregnancy and trimester, or post-partum less than six weeks
Source standards	
Data domain	SNOMED CT: • **Pregnant** • **First trimester** • **Second trimester** • **Third trimester** • **Postpartum less than six weeks** • **Not pregnant**
Obligation	Mandatory
Guide for use	If not applicable, record 'Not pregnant'

2.3.20 Medication

Concept id	Fully Specified Name	en-GB Preferred Term	Edition
715035002	Does take medication (finding)|	**Does take medication**	International Edition 20200309

2.3.21 Taking of Swabs

Concept id	Fully Specified Name	en-GB Preferred Term	Edition
320971000000102	Taking of swab for severe acute respiratory syndrome coronavirus 2(procedure)	Taking of swab for severe acute respiratory syndrome coronavirus 2	International Edition 20200309

2.3.22 Positive Assessment Outcome

Concept id	Fully Specified Name	en-GB Preferred Term	Edition
8288009	Not recovering from (contextual qualifier) (qualifier value)|	Not recovering	International Edition 20200309
268910001	Patient's condition improved (finding)	Patient's condition improved	International Edition 20200309
397709008	Patient died (finding)|	Patient died	International Edition 20200309
261665006	Unknown (qualifier value)	Unknown	International Edition 20200309

2.4   Laboratory test details

2.4.1 Laboratory Sample Date/Time

Name	Laboratory sample date/time
Definition	Date/time the patient's sample/specimen was taken and submitted for laboratory testing
Source standards	ISO 8601-1:2019 *Date and time. Representations for information interchange – Part 1: Basic rules*
Data domain	Date/time
Obligation	Optional
Guide for use	

Appendix 2 Current Labs minimum dataset in Ireland

2.4.2 Specimen

Specimens are samples of substances taken from an individual for testing - for example 258500001 |Nasopharyngeal swab (specimen)| or 119339001 |Stool specimen (specimen)|.

The following specimens may be relevant to COVID-19 testing in one or more countries affected by the virus.

CV19-INV-Specimen			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Effective Time**
258607008	Bronchoalveolar lavage fluid sample (specimen)	Bronchoalveolar lavage fluid sample	20080731
258500001	Nasopharyngeal swab (specimen)	Nasopharyngeal swab	20080731
258411007	Nasopharyngeal aspirate (specimen)	Nasopharyngeal aspirate	20080731
119364003	Serum specimen (specimen)	Serum specimen	20050131
119334006	Sputum specimen (specimen)	Sputum specimen	20080731
119339001	Stool specimen (specimen)	Stool specimen	20030731
258529004	Throat swab	Throat swab	20080731

	(specimen)		
122877000	Upper respiratory fluid specimen obtained by tracheal aspiration (specimen)	Upper respiratory fluid specimen obtained by tracheal aspiration (specimen)	20040731
122575003	Urine specimen (specimen)	Urine specimen	20080731
461911000124106	*Swab specimen from oropharynx (specimen)*	*Oropharyngeal swab*	*20200731*

2.4.3 Laboratory Tests

V19-INV-LaboratoryTests			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Effective Time**
444077007	Analysis using reverse transcriptase polymerase chain reaction technique (procedure)	Analysis using reverse transcriptase PCR	20100131
122435008	Measurement of viral antibody (procedure)	Measurement of viral antibody	20100131
9718006	Polymerase chain reaction analysis (procedure)	Polymerase chain reaction analysis	20080731
118147004	Viral nucleic acid assay (procedure)	Viral nucleic acid assay	20020131
88667002	Viral serologic study (procedure)	Viral serologic study	20150131

2.4.4 Substance and Virus

An antibody is a protective protein produced by the immune system in response to the presence of a foreign substance, called an antigen. The following antibody/antigen and virus organism concepts can be used to record the focus of a COVID-19 investigation.

CV19-INV-SubstancesAndVirus			
Concept id	**Fully Specified Name**	**en-GB Preferred**	**Effective Time**

			Term	
840535000	Antibody to severe acute respiratory syndrome coronavirus 2 (substance)		Antibody to SARS-CoV-2	20200131
840536004	Antigen of severe acute respiratory syndrome coronavirus 2 (substance)		Antigen of SARS-CoV-2	20200131
840533007	Severe acute respiratory syndrome coronavirus 2 (organism)		SARS-CoV-2	20200131
870361009	*Immunoglobulin G antibody to severe acute respiratory syndrome coronavirus 2 (substance)*		*SARS-CoV-2 IgG*	*20200731*
870362002	*Immunoglobulin M antibody to severe acute respiratory syndrome coronavirus 2 (substance)*		*SARS-CoV-2 IgM*	*20200731*

2.4.5 Laboratory Test Results

Laboratory test results are used to specify whether the Laboratory test focus was detected or not detected following the conducted laboratory test. The following qualifier values may be used for this purpose.

CV19-INV-LabTestResults			
Concept id	**Fully Specified Name**	**en-GB Preferred Term**	**Effective Time**
260373001	Detected (qualifier value)	Detected	20020131
419984006	Inconclusive (qualifier value)	Inconclusive	20060131
260415000	Not detected (qualifier value)	Not detected	20020131
125154007	Specimen unsatisfactory for evaluation (finding)	Specimen unsatisfactory for evaluation	20020131
1240581000000104	*Severe acute*	*Severe acute*	*20200731*

	respiratory syndrome coronavirus 2 detected (finding)	respiratory syndrome coronavirus 2 detected	
1240591000000102	Severe acute respiratory syndrome coronavirus 2 not detected (finding)	Severe acute respiratory syndrome coronavirus 2 not detected	20200731

2.5   Other case details

2.5.1 Reported Date/Time

Name	Case reported date/time
Definition	This is the date/time that the patient's case was reported to the CCT
Source standards	
Data domain	Date/time
Obligation	Mandatory
Guide for use	

2.5.2 Reporting Person

This is the individual who referred or reported the patient to the CCT.

HPI person identifier for referrals from a health practitioner, otherwise the person's Medical Council number or Nursing Council number or name.

Search the **Irish Medical Council Register** and **Nursing and Midwifery Board of Ireland** for registered practitioners.

COVID-19 Pandemic scope of practice has been introduced.

Optional data element.

2.5.3 Reporting Organisation

This is the name of the organisation that employs the individual who referred or reported the patient's case to the CCT.

Optional data element.

2.5.4 Contact Phone Number

The contact phone number of the individual who reported the patient's case to the CCT.

Optional data element – phone number and/or email address is required for the contact person.

2.5.5 Delivery Mode

Name	Delivery mode
Definition	Mode of delivery of assessment
Source standards	
Data domain	Numeric codes as follows: 1. Face to face, one patient to one clinician 2. Face to face, one patient to many clinicians 3. Face to face, one clinician to many patients 4. Remote patient monitoring 5. **Telephone** 6. **Videoconference** 7. **Non-contact (virtual)**
Obligation	Mandatory
Guide for use	

2.5.6 Contact Tracing Specific Data

Name	Average and Median Close Contacts per case
Definition	This is the average and median of close contacts record associated with the patient record
Source standards	
Data domain	Close Contacts
Obligation	Mandatory
Guide for use	

Name	Median time to complete Step 1 Calls in CTC
Definition	Step 1 calls are calls to inform a patient that they are tested positive. The median time to call and inform the patient is calculated as follows. The time taken between the user updating the patient record to "Positive" and the clinician updating the case outcome to "Informed" is used in this calculation.
Source standards	
Data domain	Positive patient
Obligation	Mandatory
Guide for use	

Name	Median time to complete Step 2 Calls in CTC
Definition	Step 2 calls are calls made to a patient subsequent to them being informed that they are positive by users in the Contact Tracing Centre. These calls are to record details of contact on the positive patient. When a clinician completes the Step 1 call, the case is routed to the Step 2 queue. Upon completion of gathering the contact details from the patient, the user updates the case to a status of "Contact Tracing Complete". The median time calculation is using the date and time when the user updates the case to "Contact Tracing Complete" less the time when the clinician updated the case outcome to "Informed".
Source standards	
Data domain	Positive patient
Obligation	Mandatory
Guide for use	

Name	Number of Step 1 CTC Calls completed
Definition	This is the sum of case records where the outcome of the case record = "Informed" grouped by the date on which the patient was informed.
Source standards	
Data domain	Positive patient
Obligation	Mandatory
Guide for use	

Name	Number of Step 2 CTC calls completed
Definition	This is the sum of case records where "Contact Tracing Complete" has been set grouped by the modified on date of the case record.
Source standards	
Data domain	Positive patient
Obligation	Mandatory
Guide for use	

Name	Number of Step 3 CTC calls completed
Definition	This is the sum of contact tracing records where the outcome has a status of "Informed the Contact" grouped by the modified date of the record.
Source standards	
Data domain	Positive patient
Obligation	Mandatory
Guide for use	

Number of Step 2 CTC calls completed

2.6 SNOMED to ICD 10 AM Classification Map

SNOMED CT		ICD-10			
SNOMED CT Id	**SNOMED CT Fully Specified Name**	**ICD-10 Code**	**ICD-10 Term**	**Map Details**	**Effective Time**
840539006	Disease caused by severe acute respiratory syndrome coronavirus 2 (disorder)	U07.1	COVID-19, virus identified -- with laboratory testing confirmation -- confirmed		20200309
840546002	Exposure to severe acute respiratory syndrome coronavirus 2 (event)	Z20.8	Exposure to COVID-19 or to a confirmed case		20200309
840544004	*Suspected disease caused by severe acute respiratory coronavirus 2 (situation)*	*U07.2*	*COVID-19, virus not identified -- clinically-epidemiologically diagnosed -- probable -- suspected*		*20200731*

ICD-10AM Information

2.7 TERMS IN DRAFT

Nucleic acid assay of severe acute respiratory syndrome coronavirus 2 in nasopharyngeal swab specimen (procedure)	*Nasopharyngeal swab COVID-19 nucleic acid assay*	
Nucleic acid assay of severe acute respiratory syndrome coronavirus 2 in oropharyngeal swab specimen (procedure)	*Oropharyngeal swab COVID-19 nucleic acid assay*	
Nucleic acid assay of severe acute respiratory syndrome coronavirus 2 in sputum specimen (procedure)	Sputum COVID-19 nucleic acid assay	
Nucleic acid assay of severe acute respiratory	Bronchoalveolar lavage fluid	

2.7

	syndrome coronavirus 2 in bronchoalveolar lavage fluid specimen (procedure)	COVID-19 nucleic acid assay
	COVID-19 serology (procedure)	COVID-19 serology
	COVID-19 Clinic and Testing Center (environment)	COVID-19 Clinic and Testing Centre
	History of recent travel to high risk COVID-19 region (finding)	Recent travel to high risk COVID-19 region

3 Implementation Requirements

The following are key implementation requirements for CCT solutions implementing this dataset specification.

3.1   User interface

Use a web form or functionality within the chosen application to capture the required data set. The form needs to be convenient to use for real time data capture.

3.2   Integration

Integration HealthLink/SwiftQueue, National Virus Reference Laboratory (NVRL), DOH and other master data sources referenced in this document will be critical to data quality and workflow efficiency.

In addition, integration with patient management systems and patient portals will be beneficial for access to demographic and clinical data, and for communication with patients.

3.3 Data Extracts

Solutions will need to be able to produce on-demand and scheduled bulk extracts of assessment records in a standard file format that HealthLink/SwiftQueue can allow data extracts moving both ways, NVRL data file of positive results into the CCT, DOH extract. Each extract will include a time-bracketed set of assessment records conveying the required data set for multiple patients.

Extract files will be communicated via a secure FTP server. This is consistent with the current methods of data exchange with the DOH, Health Pricing Office (HPO), HSE Board

Extract processes should be designed for security and performance. Extracts should be runnable on demand and on a schedule as frequently as hourly.

Appendix 1

CovidCare Tracker System

Background:
There is an expected substantial demand on the health service with the anticipated numbers of cases presenting as symptomatic patients needing testing and contact management due to COVID-19. The HSE has developed a tracker system based on a web platform that allows a rapid, large scale system approach to address the documentation and management of Covid 19 in citzens on a national scale. This provides a documentation tracker to support the model of care being developed to deal with the Covid 19 pandemic in Ireland

Rationale:
The aim of the Covid Care tracker is to streamline the suboptimal paper based system for management large numbers of symptomatic patients with potential Covid 19, to notify the results to people tested and to identify and manage contacts of known COVID-19 positive people. This will work in conjunction with colleagues in General Practice and assist the population approach for rapid identification of cases with a view to slowing down transmission of COVID-19; to delay and lessen the impact on the capacity of the health service.

System Functionality:
The system is developed:
- To be accessible any time on any device as long as the user has internet connectivity (no access to HSE network required)
- To be Scalable and Secure

- To prioritize delivery of minimum viable solutions in shortest time frames to support the business operating model

- To allow improvements in subsequent release phases

In keeping with the care pathway:
1. The platform can document patients who call the HSELive helpline (where they have no access to a GP) and identify a cohort who need a clinical call assessment with various management outcomes:
- Arrange for Covid 19 testing from assessment calls, Contact tracing (Symptomatic Contact at Call-3) and Community Hub Assessments *(via Healthlink – patient details from tracker via a data extract)*
- Higher level clinical call back as needed with more detailed assessment, probably doctor who then:
- Gives stay at home advice and/or seek follow up with GP
- Go to community assessment
- Go to hospital assessment
2. Results from all tests reported to the CovidCare tracker from all laboratories (agnostic to source of test request)

3. Rapid notification of positive results to confirmed cases and provision of advice around self-care and self-isolation – follow up call (Call 1)

4. Contact tracing (Call 2) - Rapid identification of contacts of confirmed cases of COVID-19 and documentation of the case and case type for further management.

5. Contact Control (Call 3): Rapid public health management of contacts of confirmed cases.
   Symptomatic contact cases can be triaged back to the system as at number 1 to be tested and provided with appropriate advice.

Designed and built, to have the capacity to communicate with thousands of contacts per day with the service provided from any setting with web access. Appropriate security is provided through a strict user management approach. The contact tracing management module is within the CovidCare case management system. The overall COVID-19 case management system, including the contact tracing data will be a source of significant data allowing analytics to inform and support overall management of Covid 19 in Ireland; with potential alignment to ongoing surveillance.

The rationale for developing a national process is to allow large volumes of patients to be processed and managed. It can alleviate the pressure on the community service. It can allow for non-frontline staff to assist clinical staff with all working in the same patient record. It can facilitate a care model that is not dependent on a physical site for much of the work. Contact tracing will be managed by a centralized team coordinating a series of call-centres/facilities. It will assist the Departments of Public Health to focus the complex cases, making best use of their expertise.

6. Covid 19 - Care Documentation

Community Hub Assessment - Documentation of care including vital signs and using INEWS score – allowing the provision of a printed record for patients needing to move to acute care and report to the GP.
Acute Hospital - Admission, Bed transfer and Discharge information in real time
Isolation facilities - Admission, Bed transfer and Discharge information in real time
Intermediate Care Facilities - Admission, Bed transfer and Discharge information in real time, nursing admission, and vital sign documentation on site and discharge documentation - the provision of a printed record for patients needing to move to acute care and report to the GP.

Staff Training and Education:
People working in the HSE and available from the wider public service, have been and will be identified to work in patient response roles and Contact Tracing Centres (CTC) roles. Direct training, supported by expert users, scripts and manuals is the model for staff training . Staff are supported by trainers/experienced users with access to a healthcare professionals and public health specialists for advice on clinical queries. This scripted process using the online platform will allow consistency of messaging, data collection and process. It is anticipated that this online platform will be available for use from Wednesday 18th March 2020 having undergone in-service assessment on

the 14th March. The clinical governance structures for oversight have been established within the office of the CCO and Public Health in the HSE.

Planned development:

People with negative results will receive a text message informing them of their result and link sources of information for self-care.

People with positive results will receive a text message informing them of their result and be advised a follow up call is to be expected

The contact management process may become more automated - casual contacts could be texted via mass text advising of appropriate self-care and the possibility of calls from people working within the contact tracing centre.

Integration with HealthLink/Swiftqueue and the IHI (under testing)

Reporting to the National Data Lake and real time Dashboard.

Appendix 2

Labs minimum dataset 16/04/2020

	HEADER Fields	Format
1	MRN	
2	Lab ID	
3	Facility ID / HIPE ID	
4	Lab Name	
5	Hospital Name	
6	Patient family name	
7	Patient given name(s)	
8	Sex	M/F
9	Patient DOB	DATE - format YYYY-MM-DD
10	Age (Years)	
11	Address Line 1	
12	Address Line 2	
13	Address Line 3	
14	Address Line 4	
15	County of Patient Residence	
16	Eircode	
17	Patient Mobile	
18	Patient Landline	
19	Source of request - e.g. NAS, hospital	
20	Specimen Date Time	TIMESTAMP - format: YYYY-MM-DD HH:MI:SS
21	Specimen Received Date	TIMESTAMP - format: YYYY-MM-DD HH:MI:SS
22	Result Date and Time	TIMESTAMP - format: YYYY-MM-DD HH:MI:SS
23	Result	(Positive / Negative)
24	Specimen Type	
25	Healthcare worker	(Y/N)

File Naming Convention	Sample	Actual	File Format
SITE_YYYY_DD_MM_HHMMSS	export from Tallaght on 20/03/2020 at 12:00	TUH_2020-20-03_1200.csv	CSV

File Naming Convention	Sample	Actual	File Format
SITE_YYYY_DD_MM_HHMMSS	export from Tallaght on 20/03/2020 at 12:00	TUH_2020-20-03_1200.csv	CSV

4 Glossary

PHO	Public Health Office
CHO	Community Health Organisations
IHI	Individual Health Identifier
CCT	Covid Contact Tracing
NVRL	National Virus Reference Labaratory
HPO	Health Pricing Office
HSE	Health Service Executive
NRC	National Release Centre
SNOMED CT	Systematized Nomenclature of Medicine-Clinical Terms
DOH	Department of Health