

# openEHR community: Covid-19 response



# Project Covfefe

discourse.openehr.org/project-covfefe/375/2

openEHR Discussion Forums CKM Website Specifications

## Project Covfefe

Covid-19 Apps covid-19

ian.mcnicoll openEHR International Board member 4 26d 27 Feb 1 / 121 28 Feb

Develop the openEHR dataset to support efforts to contain and manage COVID-19

**Aims**

- assist professional assessment of individual risk/likelihood of symptoms/signs being due to COVID-19
- assist personal/non-professional assessment of individual risk/likelihood of symptoms/signs being due to COVID-19

<https://www.hps.scot.nhs.uk/web-resources/containment/covid-19-risk-assessment/>

Centers for Disease Control and Prevention – 14 Mar 20

### Risk Assessment and Management

Interim US Guidance for Risk Assessment and Public Health Measures with Potential Coronavirus Disease 2019 (COVID-19) Exposures

Contacts of Laboratory-confirmed Cases

This relies on

- symptoms - fever, resp symptoms
- signs - temperature ?? others in due course
- known contacts
- risk areas (can be pulled from a dynamic web service)

## openEHR COVID-19 Project

Covid-19 Apps covid-19

ian.mcnicoll openEHR International Board member 2 16d

Some of you may have become gently aware of a project that a small number of openEHR folks (mostly from vendors) have been quietly working on for the past few days. This came from an idea that @Bna of DIPS and his team had discussed of the need for some kind of app to help hospitals screen patients for risk of Covid-19.

Basically this is the primary use case (good old fashioned paper form) from the US!

HeraldNet.com – 4 Mar 20

### How medical pros decide whether to test someone for COVID-19 | HeraldNet.com

This checklist could be useful to prospective patients – as well as health care workers.

A citizen-facing equivalent <sup>10</sup> has been produced by NHS-111 in the UK, using the Public Health England Risk assessment advice <sup>11</sup>

openEHR Clinical Knowledge Manager

Archetypes • Templates • Terminology • Release Sets • Reviews • Projects • Discussion • Reports • Tools • Help

Preferred View

Dashboard Find Resources **SUSPECTED COVID-19 RISK ASSESSMENT**

other context

Symptoms [0..\*]

data

Any event

data

Story

Influenza-like symptoms [0..\*]

symptom/sign name influenza-like symptoms SNOMED-CT

(Default: Influenza-like symptoms)

First onset of symptoms 20/02/2020

Presence Present

Apperta Clinical Knowledge Manager

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Preferred View

Dashboard Find Resources **NES-ACP\_COVID.v0.0**

Templates

ESSENTIAL ACP

Collapse All Show Annotations Show Paths

other context

Document type SNOMED-CT: 73639/UCS: Anticipatory care plan

Personal priorities of care [0..\*]

data

Things I would like for me [0..\*]

Things I don't want for me [0..\*]

Preferred place of care location [0..2]

Preferred place of care (second choice) location details [0..2]

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Preferred View

Dashboard Find Resources **COVID-19 incubator** **Suspect...r.v0.1** **COVID-19 project**

Living arrangement

Management/treatment screening questionnaire

Overcrowding screening

Procedure screening questionnaire

Symptom/sign screening questionnaire

Transfer of care

Travel event

Templates

All COVID-19 Likelihood Assessment

openEHR confirmed COVID-19 infection report.v0

openEHR suspected COVID-19 risk assessment.v0

Symptom/sign screening

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Preferred View

Dashboard Find Resources **COVID-19 register**

Arketypen

COVID-19 - DATASET - INTENSIVREGISTERET - NYTT COVID-19 REGISTER

Collapse All Show Annotations Show Paths

other context

Support ID

Status

Boks 1 [0..\*]

COVID-19 diagnose [0..\*]

data

Problemfagromer

Modifikasjon

Diagnosisk kategori

Modifikasjon

COVID-19 diagnose

data

Definisjon for symptom

Spesifikk symptom/tykkelsestegn

Modifikasjon

Modifikasjon

Modifikasjon

Archetype Designer

Repositories Save Depart Import

openEHR-FHR-CLUSTER ventilation modes.v0

Tree Minimap Tabbed ADL Terminology Analytics

Header Attribute Items

Items

Code	Text
a0001	intermittent mandatory ventilation IMV
a0002	synchronized intermittent mandatory ventilation SIMV
a0003	spontaneous intermittent ventilation SI
a0004	continuous spontaneous ventilation CS
a0005	continuous positive airway pressure CPAP

Availability types: Coded Text

Types: Free text, Internal coded

Assumed value

SUSPECTED COVID-19 RISK ASSESSMENT

BELL, Emily | Acorn 122 | Known allergies

31/07/2020 • 8:16  
MRN: 1111110

### Suspected COVID-19 risk assessment

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). A novel coronavirus (nCoV) is a new strain that has not been previously identified in humans. For more information on coronaviruses from the World Health Organization (WHO), please check the following page: [WHO's website](#).

While this assessment is possible to select the information required to evaluate the potential risk of COVID-19 infection, it is part of professional screening or self-assessment.

Patient symptoms

• Assessment

Patient travelled from overseas to date and changed the creation.

• Common symptoms

From: Assessment of a patient's risk for the respiratory system.

1. Evaluate the symptoms

Reviewed?

Spontaneous or Mandatory Mode

Flowchart

Suitable for re-intubation

Resuscitation Status **For resuscitation**

### Other Organ Dysfunction

Resp Dysfunction

CVS Dysfunction

Uro Dysfunction

Renal Dysfunction

vanessap Vanessa Pereira

Hi,

1st draft version of Confirmed COVID-19 infection report form from Pathfinder/Better Portal. Design is prone to change for better UX.

### Confirmed COVID-19 infection report

Following revised case report form for Confirmed Novel Coronavirus COVID-19 from WHO. Reference: WHO/2019-nCoV/SurveillanceCFR/2020.2

Why tested for a COVID-19:

- Contact of a case.
- Sinking/Healthcare due to suspicion of COVID-19.
- Detected at point of entry.
- Resuscitation.
- Routine respiratory disease surveillance system(e.g. influenza).
- Unknown.

If none of the above, please explain:

Reason for testing for COVID-19

Section 1: Patient Information

Unique case identifier (based in country) 1234

ZZZTESTBOBEW, Swizzlestick

MRN: 126230 NHS: 9994533312 DOB: 1920-12-20 Age: 99 Gender: Female Location: Acorn Ward, HD5.1

Fill From Last

### Critical Care Pre-Referral Information

- This information is intended to inform discussion and decision making.
- Advanced planning regarding suitability for escalation to Critical Care is vital in delivering the right therapy for the right patients.
- This information also informs on expectations and targets during weaning from critical care therapies.
- This is **NOT** a summative scoring system with defined outcomes.

Assessment Date dd/MM/yyyy AM : AM

Baseline Functional Capacity

- 
- 
- 
- 
- 
- 
-

← All    BEAU85459309    POSITIVE

S    B    **A**    R    R  
 Standard    Background    **Assessment**    Assessment    Response

### B. Breathing

SP02 (on arrival): **88%**    Respiration rate: **22 bpm**

Right lung finding: **Normal**    Left lung finding: **Wheezes**

Oxygen delivery: **Mask**    O2 flow rate: **15 l/min**    SP02 (post O2): **97%**

Increased work of breathing:  
 Yes    No

### C. Circulation

Heart rate: **22 bpm**    Blood pressure: **120/50**    Cap refill: **> 3 secs**

Abdomen: **Soft**    Current IV fluids: **None**

github.com/OpentriFoundation/COVID-19-screening-interface

## COVID-19-screening-interface

COVID-19 Screening Interface using Covid-19 OpenEHR Clinical Models  
 Developed in the Open

### Summary

This repository contains software which enables an organisation to rapidly deploy a Covid-19 screening programme. Data collected will be stored in the local openEHR database and reports to the WHO standard made available.

Being Open Source, the application can be implemented within an organisation using existing systems therefore reducing privacy and information governance challenges associated with cloud systems.

Being modular, the application can be connected to an existing openEHR repository or operated with a stand-alone repository.

Project aims

**PatientSky**

**FIGHT COVID-19**

**Kampen mot COVID-19: Registrer symptomer og hjælp andre**

I kampen mod coronavirus er det vigtigt at indsamle og dele information. Hjælp os med at identificere nye tilfælde og hjælpe andre til at komme sig. Du kan gøre det ved at registrere dine symptomer og hjælpe andre til at komme sig. Du kan gøre det ved at registrere dine symptomer og hjælpe andre til at komme sig.

**Skift sprog**

Jeg er interesseret i at hjælpe andre til at komme sig og dele information.  Jeg er interesseret i at hjælpe andre til at komme sig og dele information.

**Skift sprog**

Jeg er interesseret i at hjælpe andre til at komme sig og dele information.  Jeg er interesseret i at hjælpe andre til at komme sig og dele information.

**Preferred place of care (second choice) location details**

Preferred place of care (second choice) location details  
 Details of preferred location of the second choice preference if place of care

Home  
 Hospital  
 Nursing home

**Other information**

Other information  
 Any additional comments about the preferred place of care preference.

**Religious or cultural observance**

**Religious observance**

Religious observance  
 Name of the belief which practice to which the individual adheres.

**Input on care**

Input on care  
 Describe decision about how care needs to be managed to support individual religious practice.

**Advance care directive**

**ADN ID - DIRECTIVE**

Type of directive  
 The type of advance care directive.

**Location details**

**Location**

discourse.openehr.org/covid-19-diagnosis-and-treatment-decision-support-openehr-templates-and-rules/516

openEHR Discussion Forums COVID-19 Diagnosis and Treatment Decision Support: openEHR Templates and Rules


Shan Shan Nan 1 2d

Dear Colleagues,

On behalf of all the members of Xudong's @Blood team, I'm pleased to share our GDL rules and related archetypes regarding the Chinese COVID-19 Guidelines. The files are now available on GitHub (<https://github.com/DJL-BMF-VICQ/openEHR-COVID-19>). Everyone is encouraged to test, use, fork, and feedback on the rules and archetypes freely.


In China, COVID-19 broke out in December 2019 and has been under control for a couple of weeks. Of all the 81693 patients, 72703 are already fully recovered and reunion with their families. This achievement is significant, and the experiences leading to it are worth sharing with the world. Some researchers are already working on translating the Chinese guidelines to English and Persian (probably other languages as well) to facilitate the sharing among caregivers. We, as informaticists, believe taking advantage of the open standard (i.e., openEHR) and a formal guideline language (GDL 2 in this case) would not only accelerate the sharing process globally but also reduce the ambiguity in the narrative texts.

Since our primary goal is supporting the diagnosis and treatment, the archetypes and GDL rules are adopted from the diagnosis and treatment part of the Chinese guideline. The data elements and rules in the rest parts of the guideline are out of our scope. The GDL rules are authored and validated by the GDL2 Editor. Detailed instructions are available in GitHub.




## COVID-19 Diagnosis and Treatment CDSS

PatientID: 12345678 NAME: Sam Gender: Male Age: 35yr

 **Diagnosis**

Reference Diagnosis: **COVID-19 Critical**

- Epidemiological History: History of travel to Wuhan and its surrounding areas within 14 days prior to the onset of the disease
- Comorbidities: Respiratory failure
- Observations: rRT-PCR: positive, Temperature: 39.4°C, SaO2: 90%, No RR records.WBC: 5.5, Lymphocyte count: 1.4; Dry cough, Fatigue, Diarrhea, Slight clinical symptoms, Fever.

 **Treatment Suggestions**

- Procedures
  - Admitted to hospital

HIM Healthcare Modeling Collaboration Archetypes Templates Statistics

Search Search Templates Diagnosis and treatment... X

Tree Dated Info OET Mind Map History HTML Form

- Observation
- Instruction
- Admin
- Section
- Structure

Sub Repository

COVID-19

- EHR Templates
- Cluster
- Composition
- Diagnosis and treatment template of COVID-19**
- Element
- Entry
- Action
- Evaluation
- Observation
- Instruction
- Admin
- Section
- Structure

- data
- Any event
- data
- Chronological age
- Adjusted age
- Comment
- Pregnancy/breast feeding status Name(Pregnancy stat)
- story/reentry Name(symptoms)
- data
- Any event
- data
- Story
- Structured detail
- Symptom/Sign
- Symptom/Sign name
- Unsignifed
- Description
- body site
- Structured body site
- locality

# Community

