

openEHR community: Covid-19 response



Project Covfefe

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

openEHR Discussion Forums CKM Website Specifications

Project Covfefe

Covid-19 Apps covid-19

ian.mcnicoll openEHR International Board member 4 28d 27 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-container/novel-coronavirus-2019-ncov-guidance>

CDC Centers for Disease Control and Prevention – 14 Mar 20

Risk Assessment and Management

Interim US Guidance for Risk Assessment and Public Health Management of Individuals 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 ¹⁰ has been produced by NHS-111 in the UK, using the [Public Health England Risk assessment advice](#) ³

openehr.org/ckm/templates/1013.26.280

openEHR Clinical Knowledge Manager

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 26/03/2020

Presence Present

Apperta Clinical Knowledge Manager

Archetypes Templates Termsets Release Sets Reviews Projects Discussion Reports Tools Help

Preferred View

Templates

ESSENTIAL ACP

other_context

XDS Metadata [0..*]

Document type SNOMED-CT::736367008::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] Home

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

openehr.org/ckm/projects/1013.30.81

openEHR Clinical Knowledge Manager

Living arrangement

Management/treatment screening questionnaire

Overcrowding screening

Procedure screening questionnaire

Symptom/sign screening questionnaire

Transfer of care

Travel event

Templates

- AU COVID-19 Likelihood Assessment
- openEHR confirmed COVID-19 infection report.v0
- openEHR suspected COVID-19 risk assessment.v0
- Symptom/sign screening

arktyper.no/ckm/templates/1078.60.828

NASJONAL IKT Clinical Knowledge Manager

Alle ressursur

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

other_context

Rapport ID

Status

Boks 1 [0..*]

COVID-19 diagnose [0..*]

data

Problem/diagnosenavn Disease caused by severe acute r SNOMED-CT

Kvalifikatorer [0..*]

Diagnostisk kategori Hoveddiagnose OR T

symptomer [0..*]

data

Innkost [1..1]

data

Debut av første symptom 26/03/20...

Spesifikt symptom/sykdomstegn [0..*]

Navn på symptom/sykdomstegn Cough (finding) SNOMED-CT

Tilstede? [1..1] Tilstede

Archetype Designer

Repositories Save Export Import

openEHR-EHR-CLUSTER.ventilation_modes.v0

Tree Mindmap Tabbed ADL Terminology Analytics

Header Attribution Items

Items

- Compound mode
 - Coded Text
 - Mandatory
- (Ventilator mode setting)
 - Quantity
 - Mandatory, repeating
- Ventilation pattern
 - Coded Text
 - Mandatory, repeating
- Mode adjunct
 - Coded Text
 - Optional, repeating
- Patient trigger
 - Cluster
 - Optional, repeating
- Trigger type
 - Coded Text
 - Mandatory
- Flow trigger

Available types: Coded Text

Types: Coded Text

Code	Text
at0021	intermittent mandatory ventilation IM
at0022	synchronized intermittent mandatory
at0023	spontaneous/timed ventilation S/T
at0024	continuous spontaneous ventilation C
at0025	continuous positive airway pressure C

Assumed value

Edit

SUSPECTED COVID-19 RISK ASSESSMENT

BELL, Emily Acorn / 32 Known allergies

09/07/2019 • 8 m
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 and guidelines from the World Health Organization (WHO), please check the following page: [WHO technical guidance](#).

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

Patient symptoms

- Anamnesis

Patient travelled from Slovenia to Italy and then got flu symptoms.

- Common symptoms

Record the presence of symptoms from the suspected patient.

1. Influenza-like symptoms Present Absent Unknown First onset: 05/03/2020

Paralysed?

Spontaneous or Mandatory Mode Spontaneous Mandatory

Pi_{peak} (cmH₂O) _____ cmH₂O

Suitable for re-intubation

Resuscitation Status **For resuscitation**

Other Organ Dysfunction

Resp Dysfunction No support or nasal spec. Venturi <60%
NIV / Highflow nasal prongs / Venturi 60% Intubated and ventilated

CVS Dysfunction No support Metaraminol or Noradrenaline <= 5ml/hr
Noradrenaline >= 5ml/hr High dose inotropes (Norad double strength or >= 2 inotropes)

CNS Dysfunction Alert, comfortable CAM-ICU +ve or Pain
Agitated or drowsy Unconscious

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/SurveillanceCRF/2020.2](#)

Why tested for a COVID-19: Contact of a case.
 Seeking Healthcare due to suspicion of COVID-19.
 Detected at point of entry.
 Repatriation.
 Routine respiratory disease surveillance systems (e.g. influenza).
 Unknown.

If none of the above, please explain:
Reason of testing for COVID-19 _____

Section 1: Patient information

Unique case identifier: **1234**
(used in country)

ZZZTESTBOBEW, Swizzlestick

MRN: 1286259 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 HH : MM

Baseline Exertional Capacity: Very Fit Fit
Mild Limitation Moderate Limitation
Significant Limitation Severe Limitation
Very Restricted

BEAU85459309 POSITIVE

S Situation B Background COVID-19 **A Assessment** R Recommend R Response

B. Breathing

SPO2 (on arrival) **88%** Respiration rate **22 bpm**

Right lung finding **Normal** Left lung finding **Wheeze**

Oxygen delivery **Mask** O2 flow rate **15 Lts** SPO2 (post O2) **97%**

Increased work of breathing **Yes** **No**

C. Circulation

Heart rate **22 bpm** Blood pressure **120/80** Cap refill **> 3 secs**

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

github.com/AppertaFoundation/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.

PatientSky

FIGHT COVID-19

Kampen mot COVID -19: Registrer symptomer og hjelp andre

I kampen mot koronaviruset er det viktig å ha mest mulig korrekt informasjon tilgjengelig, slik at beslutningstakerne kan ta best mulig beslutninger. Nedenfor kan du rapportere inn dersom du opplever luftveissymptomer. Dataene vil bli behandlet anonymt. Kampen mot COVID-19 er et ikke-kommersielt initiativ fra PatientSky, der målet er å bidra til at myndighetene får bedre oversikt over koronaviruset og større muligheter til å bekjempe smitten. Ved å fylle inn skjemaet nedenfor, hjelper du andre og bidrar i kampen mot COVID-19.

Tast inn ditt fødsels- og personnummer: *

(Vennligst fyll inn 11 sifre.)

Samtykke *

Jeg samtykker til at oppgitte data kan innsendes, brukes og utleveres til norske myndigheter og andre offentlige institusjoner i kampen mot Covid-19. Jeg er kjent med at "Kampen mot Covid-19" er et ikke-kommersielt tiltak for å samle inn informasjon om luftveissymptomer som kan brukes som beslutningsstøtte for myndighetene.

FIGHT COVID-19

Kampen mot COVID -19: Registrer symptomer og hjelp andre

I kampen mot koronaviruset er det viktig å ha mest mulig korrekt informasjon tilgjengelig, slik at beslutningstakerne kan ta best mulig beslutninger. Nedenfor kan du rapportere inn dersom du opplever luftveissymptomer. Dataene vil bli behandlet anonymt. Kampen mot COVID-19 er et ikke-kommersielt initiativ fra PatientSky, der målet er å bidra til at myndighetene får bedre oversikt over koronaviruset og større muligheter til å bekjempe smitten. Ved å fylle inn skjemaet nedenfor, hjelper du andre og bidrar i kampen mot COVID-19.

Tast inn ditt fødsels- og personnummer: *

(Vennligst fyll inn 11 sifre.)

Preferred place of care (second choice) location details

Preferred place of care (second choice) location details
Details of organisation/location of the second choice preference of place of care.

Home
 Hospital
 Nursing home

Other information

Other information
Any additional comments about the subject's place of care preferences.

Religious or cultural observance

Religious affiliation

Religious affiliation
Name of the belief and/or practice to which the individual is affiliated.

Impact on care

Impact on care
Narrative description about how care needs to be modified to support the individual's religious practice.

Advance care directive

Type of directive

Type of directive
The type of advance care directive.

Location details

Location



Shan Shan Nan

1 2d

Dear Colleagues,

On behalf of all the members of Xudong's @lvxd team, I'm pleased to share our GDL rules and related archetypes regarding the Chinese COVID-19 Guideline. The files are now available on GitHub (<https://github.com/ZJU-BME-VICO/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 81093 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 (GDL2 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
- Co-morbidities**: Respiratory failure
- Observations**: rRT-PCR: positive, Temperature: 39.4°C, SaO2: 90%, No RR records.WBC: 3.3, Lymphocyte count: 1.4; Dry cough, Fatigue, Diarrhea, Slight clinical symptoms, Fever.

Treatment Suggestions

- Procedures**
 - Admitted to hospital

The screenshot shows the openEHR software interface. The top navigation bar includes 'HM Healthcare Modeling Collaboration', 'Archetypes', 'Templates', and 'Statistics'. The main area is divided into a search bar and a search results pane. The search results pane shows a tree view of templates, with 'Diagnosis and treatment template of COVID-19' selected. The detailed view of this template is shown on the right, displaying a hierarchical structure of data elements and their relationships. The search results pane also shows a list of sub-repositories, including 'COVID-19'.

Community

