IMI2 Project 101005122 - DRAGON

The RapiD and SecuRe AI enhAnced DiaGnosis, Precision Medicine and Patient EmpOwerment Centered Decision Support System for Coronavirus PaNdemics

WP1 – Management

D1.4 Report on virtual meeting with the other SARS-CoV2 projects

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Abstract

The coordinator of the DRAGON consortium has been tasked with participating in events organised by IMI to increase collaboration activities between COVID19 related granted projects.

The first such meeting was organized by IMI in on October 8th, 2020. These initial meeting served as an introduction between representatives from the COVID-19 related IMI projects with the goal of further connections between projects, to seek mutual interests, strengthen each other's proposals, and create an organised effort in Europe against COVID19. The goal of this task is to set up formalised agreements between the different awarded grants, leading to inter-project working groups and mechanisms for sharing results and information.

Within DRAGON, BIOSCI has taken the lead by organising a meeting with all other IMI COVID19 projects on 1 December 2021. The meeting notes are provided in attachment at the end of this report. The DRAGON consortium identified synergies and a potential for collaboration with the IMPENTRI and DECISION consortia. Follow up activities are ongoing.

Meeting minutes - Collaborating across IMI COVID initiatives

Date: 1/12/2020

Attendance and email list
COVID-RED not in attendance
DECISION
IMPENTRI
MAD-CoV 2
CARE
RAPID- COVID
KRONO

Aspects each consortium would like to collaborate on

COVID-RED
COVID-RED focuses on remote early detection of SARS-CoV-2 infection by using a wearable device (AVA bracelet) measuring vital signs and changes in biophysical parameters.They would like to explore possible collaborations with other projects in order to face possible limits with the testing capacity and variety (testing the device with other pathogens and/or SARS-CoV-2 genetic variants).
not in attendance

DECISION
DECISION focuses on a disposable point-of-care diagnostic device (NANO) based on pulsed controlled amplification to be used in the field. The proof of concept is foreseen by the end of March 2020. NANO will undergo through regulatory approval. The consortium is open to collaborate with projects developing new therapeutics that need diagnostic support. It is also keen to collaborate with other projects in the regulatory space.

POSSIBLE COLLABORATIONS
- DRAGON
  - Condensate
    - Is there regulatory approval for condensate?
  - Similar interest in data standards as well as sample collection and storage
  - Disposable diagnostic
  - Offer to developers a diagnostic
  - Also strong regulatory team if someone needs help
  - Questions around Ethics:
    - not as much experience
    - patient and community

IMPENTRI
IMPENTRI focuses on the development of an intravenous therapy based on oral imatinib for the treatment of Acute Respiratory Distress Syndrome (ARDS). It has a Phase II trial of oral imatinib in 386 Covid-19 patients underway. They would like to explore collaboration on the identification of prognostic biomarkers and other clinical enabling technologies.

CONNSIDERATIONS
Companion biomarkers - not anti-viral

POSSIBLE COLLABORATIONS
- DRAGON

o   Potentially of interest to work with DRAGON TOP MD

MAD-CoV 2

MAD-CoV 2 focuses on the development of antivirals against SARS-CoV-2 (targeting ACE2 receptor) through the engineering of human tissues for the testing of novel therapies and the high-throughput screening of host genetic factors (at a single amino acid resolution), which are critical for SARS-CoV-2 replication. The consortium is open to collaborate with other projects for the development of tools and reagents and the testing of the identified antivirals in clinical trials.

CONSIDERATIONS
Testing combination therapy using in vitro organoids therapies
- Anti-viral endpoints
- Understanding mechanism

POSSIBLE COLLABORATIONS
- IMPENTRI is focused on symptoms
  o   Imatinib is well established and could be used to test and see what happens
  o   Could be collaboration around the interpretation of the results of the tests

CARE

CARE coordinates the screening of drug for repurposing with other efforts outside of Europe, like BMGF and China. CARE offers opportunity to test 3rd parties' assets and use their established discovery and clinical platform. It is open to share pathogenesis and system biology data. It could offer help for the implementation of diagnostic test in clinical trials (for patient stratification and end-points analysis) and particularly with IMPENTRI leverage insights on immunological responses against SARS-CoV-2 infections.

Asking to the WP leaders right now to get feedback

Working on virus host interaction with in vitro tests

Prognostic biomarkers - systems biology approach and to exchange on these biomarkers would be very interesting

Sharing samples could be an issue because not at the same timeline

Could have clinical trials inventory IMPENTRI has a clinical trial running and one starting in January – a cillary study

RAPID-COVID

RAPID-COVID focuses on the development of a disease agnostic multiplex PCR assay detecting respiratory pathogens via i) Point of Care (targeting e.g. SARS-CoV-2, Influenza A and B, RSV) and ii) High-throughput automation (targeting virus e.g. Adenovirus, Influenza, Parainfluenza RSV, Coronavirus etc. and bacteria e.g. Bordetella, Chlamydia, Coxiella, Streptococcus, Haemophilus, Klebsiella Legionella etc.). The consortium is open to collaborate with clinical trials or studies, undertaken by other projects, which require diagnostic

POSSIBLE COLLABORATIONS
Standardization

- Sample collection, storage, testing subsequently platforms
- What is good for screening etc.

Data
- Sharing data standard

KRONO

KRONO focuses on the development of a Point of Care diagnostic for early detection of SARS-CoV-2 carriers (e.g. asymptomatic), based on the extraction free close-tube RTqPCR.

Looking to test a number of samples
- Molecular diagnostic real time PCR
- Using different types of samples

POSSIBLE COLLABORATIONS
DRAGON
- Condensate testing samples
- Aligning on standards

DRAGON

DRAGON focuses on the development of diagnostic and prognostic models (based on imaging) combined with molecular profiling by AI enhanced analysis (deployed by a federated machine learning networks) for early detection of disease progression. The consortium is open to establish collaboration around their clinical platforms (e.g. concluded therapeutical clinical trial on Remdesivir in COVID19 patients, prospective clinical trial non-interventional cohort studies without therapeutic intervention for the development of prognostic models for risk classification and triage of patients diagnosed with COVID-19) and for the assessment of SARS-CoV-2 detection through analysis of exhaled breath aerosols.

POSIBLE COLLABORATIONS
- Nomogram for screen
- Decision support
- machine learning data sharing
- DRAGON conference
- Activity monitoring
- Pathway biomarkers
- Data standards
- Stakeholder Community
- Patient public stakeholder engagement

Completing the initial IMI collaboration agreement

CONSIDERATIONS
Process
- Everyone has to agree in principle
- Organise the process

Should we have a portal of some sort
- Data and information and being able to see what is happening and see what is there and speak formation