Models on the Peer Models Network

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Introduction

This user guide includes information about models hosted on the Peer Models Network.

Chapter 2

ACCEPT

Model Name: Acute COPD Exacerbation Prediction Tool (ACCEPT)

Modelling team: Respiratory Evaluation Sciences Program (RESP), at the Faculty of Pharmaceutical Sciences at the University of British Columbia http://resp.core.ubc.ca

Link to published manuscript, pre-print, or other report: Adibi A, Sin DD, Safari A, Jonhson KM, Aaron SD, FitzGerald JM, Sadatsafavi M. The Acute COPD Exacerbation Prediction Tool (ACCEPT): a modelling study. The Lancet Respiratory Medicine. Published Online First 2020 March 13th; doi:10.1016/S2213-2600(19)30397-2

Purpose of the model: To predict probably, rate, and severity of COPD exacerbations within the next year.

Outcome measure: Probability and rate of all and severe exacerbations within the next year.

Model companion video(s): The ACCEPT Model in 90 Seconds

Interview with modeller: Read the interview with Amin Adibi on Peer Models Network blog.

Interview with stakeholder(s) or other media coverage:

Lancet Respiratory Medicine: COPD exacerbations: finally, a more than ACCEPTable risk score

2.1 How to Access the Model

ACCEPT is available as a web app and an R package. Additionally, users can access ACCEPT on the Peer Model Network's cloud.

Additionally, the Peer Models Network allows users to access ACCEPT through the cloud through Microsoft Excel, R, Python, JavaScript, Linux bash and any other platform that supports modern APIs.

Microsoft Excel

A MACRO-enabled Excel-file can be used to interact with the model and see the results. To download the PRISM Excel template file for ACCEPT, please refer to the PRISM model repository.

Cloud Access through R

User's can access models on the Peer Models Network using the `peermodels` R package, available on GitHub. The following code snippet illustrates how you can run the model for example patients provided in the `accept` package:

```
remotes::install_github (resplab/peermodels)
library(peermodels)
connect_to_model("accept", api_key = YOUR_API_KEY)
input <- get_default_input()
results <- model_run(input)
```

Cloud Access through Python

```
import json
import requests
url = 'https://prism.peermodelsnetwork.com/route/accept/run'
headers = {'x-prism-auth-user': YOUR_API_KEY}
model_run = requests.post(url, headers=headers,
json = {"func":["prism_model_run"],"model_input":[{"ID": "10001","male": 1,"age": 57,"s
print(model_run)
results = json.loads(model_run.text)
print(results)
```

Cloud Access through Linux Bash

In Ubuntu, you can call the API with `curl`:

```
curl \
-X POST \
-H "x-prism-auth-user: REPLACE_WITH_API_KEY" \
-H "Content-Type: application/json" \
-d '{"func":["prism_model_run"],"model_input":[{"ID": "10001","male": 1,"age": 57,"smol
https://prism.peermodelsnetwork.com/route/accept/run
```