**Supplementary Code and Description (Please unzip the files first)**

1. **Simulation code for COVID-19-related deaths on OS/PFS (Sections 2.2 and 3.1)**

**source\_updated3.R**  --- includes functions that simulate the data, run the analysis of different approaches in main Table 1.

**simCOVIDdata.R** - calls source\_updated3.R and simulate data according to different scenarios (study duration and data cutoff, pandemic duration and starting time.

**simCOVIDpower2.R** – summarizes the simulation output from simCOVIDdata.R. The final results include power/Type 1 error rate, bias of HR.

**How to run the code?**

**Step 1.** Run simCOVIDdata by setting the working directory properly. R The output for each scenario is an Rdata file 1.8Gb. The running time is about 3min.

**Step 2.** Run simCOVIDpower2.R to summarize the results.

The output results are part of main Tables 1 and 2. For more general setting, the users can modify the parameters in simCOVIDdata.R

1. **Simulation code and output for missed visits (Sections 2.4 and 3.3) and time off-treatment (Section 2.3 and 3.2)**

**COVID19 Supplementary tables and Figures v2.Rmd** – The R markdown file that generates main Figure 2 and supplementary Tables 1-7.

**COVID19 Supplementary tables and figures v2.html (**output)

**How to run the code?**

Please set the current file directory as working directory (see Line 38 of the R markdown file) and please make sure that the path for the output csv files are in the same directory.

**Note**: 1 simulation for missing visits and time off-treatment (near 30 scenarios) takes more than 1min. Here we presented a subset of the simulation as some results are similar. In total, there are 5000x4 simulations, which is very computational intensive. We have used internal Scientific Computing Cluster (SCP) to generate the simulation results. In order to meeting the limit of 10mb file size, the simulation results were summarized in three main files “Missing data simulation output.csv” and “Excess hazard simulation output 10percent.csv” and “Excess hazard simulation output 30percent.csv” .