### Vaccines in India

#### Intro

As there is a resurgence of the COVID-19 pandemic in India, it is of interest to public health practitioners and policymakers to evaluate compliance towards receiving the second dose of the COVID-19 vaccine. In particular, while some protection against severe COVID-19 symptoms is conferred with the first of a two-dose vaccine, there are more protective one-dose vaccines available, which need to be considered if there is sufficient evidence that Indians are not receiving their second dose of a two-dose vaccine. In India, they are currently only administering two-dose COVID-19 vaccines to date (7 April 2021). The current recommendation is to administer the second dose six weeks after the initial dose, though it had previously been as few as four weeks and can be administered as many as eight weeks later.

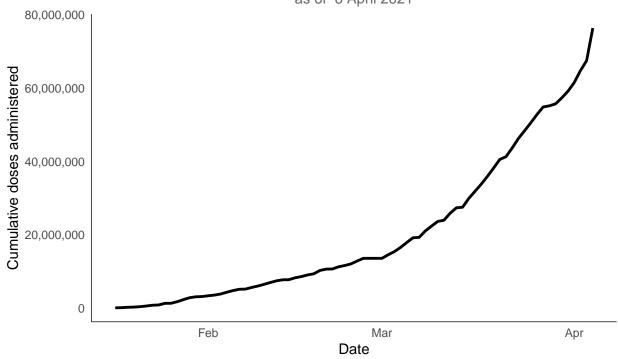
Using vaccine data from covid19india.org (which itself draws on the co-WIN database), we explore the distribution of the administration of first and second doses of COVID-19 vaccines in India over time and describe the discrepancy in expected two-dose vaccinations.

```
##
   # A tibble: 81 x 16
##
                  state first_dose_administ~ two_dose total_vax total_doses one_dose
      date
##
                                                  <dbl>
                                                             <dbl>
                                                                          <dbl>
                                                                                   <dbl>
      <date>
                  <chr>
                                         <dbl>
                                                      0
                                                             48276
                                                                         48276
                                                                                   48276
##
    1 2021-01-16 India
                                         48276
    2 2021-01-17 India
                                        58604
                                                             58604
                                                                         58604
                                                                                   58604
##
                                                      0
##
    3 2021-01-18 India
                                        99449
                                                      0
                                                            99449
                                                                         99449
                                                                                   99449
##
    4 2021-01-19 India
                                       195525
                                                      0
                                                            195525
                                                                        195525
                                                                                  195525
##
    5 2021-01-20 India
                                       251280
                                                      0
                                                            251280
                                                                        251280
                                                                                  251280
##
    6 2021-01-21 India
                                       365965
                                                      0
                                                            365965
                                                                        365965
                                                                                  365965
    7 2021-01-22 India
                                                      0
##
                                       549381
                                                            549381
                                                                        549381
                                                                                  549381
##
    8 2021-01-23 India
                                       759008
                                                      0
                                                            759008
                                                                        759008
                                                                                  759008
##
    9 2021-01-24 India
                                       835058
                                                      0
                                                            835058
                                                                        835058
                                                                                  835058
## 10 2021-01-25 India
                                      1277104
                                                      0
                                                          1277104
                                                                       1277104
                                                                                 1277104
  # ... with 71 more rows, and 9 more variables: daily one dose <dbl>,
## #
       daily_two_dose <dbl>, four_week <dbl>, six_week <dbl>, eight_week <dbl>,
## #
       daily min week <dbl>, daily max week <dbl>, min week <dbl>, max week <dbl>
```

### Plots

### **Cumulative doses administered**

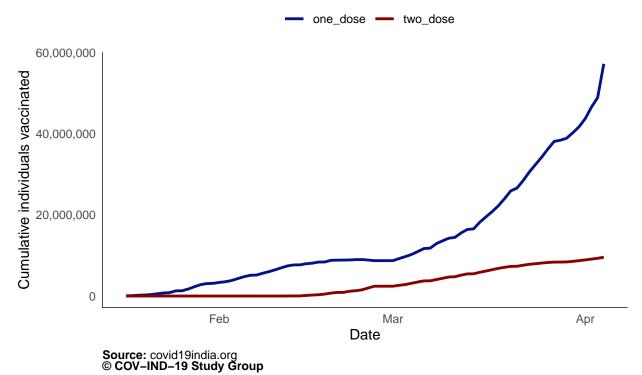
as of 6 April 2021



Source: covid19india.org © COV-IND-19 Study Group

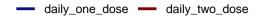
## Cumulative individuals vaccinated by dose

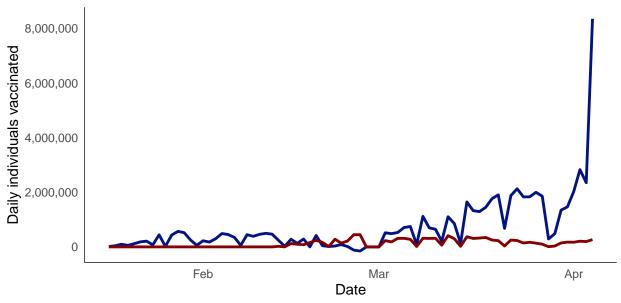
as of 6 April 2021



## Daily individuals vaccinated by dose

as of 6 April 2021



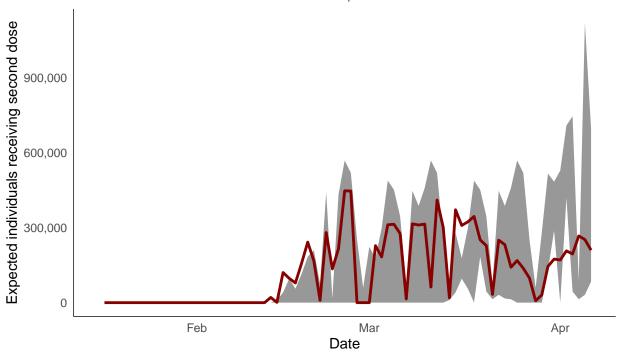


Source: covid19india.org © COV-IND-19 Study Group

## Warning: Removed 1 row(s) containing missing values (geom\_path).

# Expected daily second dose schedule

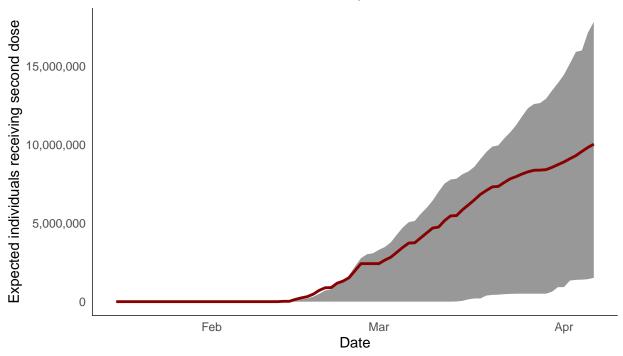
as of 6 April 2021



Source: covid19india.org © COV-IND-19 Study Group

## Expected cumulative second dose schedule

as of 6 April 2021



Source: covid19india.org © COV-IND-19 Study Group