R Notebook

# Parameters table

## Population characteristics

|  |  |
| --- | --- |
| Variable | Distribution |
| Work Schedule |  |
| Staff type |  |
| CN contacts per hour |  |
| RN contacts per hour |  |
| LPN contacts per hour |  |

## Infection

|  |  |  |
| --- | --- | --- |
| Name | Value | Reference |
| Latent period () |  | [@He2020] |
| Asymptomatic () |  | [@Feaster2020] |
| Average recovery time () |  |  |
| Proportion of Hospitalizations () |  |  |
| Median number of days from symptom onset to hosp () |  | [@CDC2020] |
| Median number of days of hosp for ICU admission () |  | [@CDC2020] |
| Median number of days of hosp for non ICU admission () |  | [@CDC2020] |
| Percentage of deaths on hospitalization () |  |  |
| Shedding probability () |  |  |
| Infection probability () |  |  |
| Introduction probability () |  |  |

## Interventions

|  |  |  |
| --- | --- | --- |
| Name | Value | Reference |
| Proportion of staff using PPE() | 0.9 |  |
| Proportion of residents using PPE() | 0.75 |  |
| PPE Effect () | 0.1467 | [@Chu2020] |
| Test detection probability() |  |  |
| Proportion of Staff tested |  |  |
| Proportion of Residents tested |  |  |
| Frequency of testing | Weekly |  |
| Vaccine effect () | 0.0493 | [@Baden2020] |
| Vaccine immunity duration |  |  |

## Sensitivity analysis

|  |  |  |
| --- | --- | --- |
| Scenario | Target parameter | Value used |
| Low transmission | Shedding and infection probability | 0.38 |
| High transmission | Shedding and infection probability | 0.45 |
| Low Introduction Probability | Introduction probability | 0.05 |
| High Introduction Probability | Introduction probability | 0.15 |
| Low Detection Probability | Detection probability | 0.7 |
| High Detection Probability | Detection probability | 0.90 |
| High effect PPE | PPE effect | 0.0722 |
| Low effect PPE | PPE effect | 0.3408 |
| Every 5 days | Testing frequency | every 5 days |
| Every 3 days | Testing frequency | every 3 days |