Modelling Consortium reports

*Some data overlaps between different reports

Estimating Cases for COVID-19 in South Africa

Data	Notes
COVID-19 statistics [as of May 18th, 2020] Includes: ● Tests conducted ● Positive cases identified ● Recoveries ● Deaths ● New cases	Exact statistics shown both nationally and by province Data updated every week
National COVID models ● Includes Epi model and cost model ● possible levels of infection ○ categorizes levels of infection that require hospital resources	Shown as a flowchart
Short-term projections: ● Active cases (symptomatic) ● Hospital ICU and non-ICU beds occupied ● Cumulative deaths	Projections shown as graphs/general trends, specific stats not provided Optimistic and pessimistic scenarios provided General upper and lower ranges also provided for each scenario

Long-term projections:
 ● Impact of lockdown on active cases (symptomatic and asymptomatic)
 ● National projections
  ○ Active cases
  ○ ICU and non-ICU beds in use
  ○ Deaths
 ● Provincial projections:
  ○ Active cases
  ○ ICU and non-ICU beds in use
  ○ Deaths
	Projections shown as general trends in graphs and ranges, specific stats not provided
	
	 Optimistic and pessimistic scenarios provided

Disease severity with age-specific adjustment ● % of severe cases out of hospitalized cases ● % critical of severe cases ● % fatal of critical cases ● Age-distribution graph shown	Percentages provided for different age ranges of 9 years

Key model parameters
 ● Infection severity percentages provided for cases that are:
  ○ Asymptomatic
  ○ Mild to moderate symptomatic
  ○ Severe symptomatic
	Percentages of asymptomatic cases confirmed by different sources

Data	Notes
○ Critical symptomatic ○ Fatal ● Timeframes of treatment durations for different levels of severity	

Estimating Cases for COVID-19 in South Africa: national projections

Data	Notes
Modelling intervention effectiveness (Percent reduction in R_0) for: ● Transmissibility reduced by lockdown until April 30th ● Reductions by Level 4 restrictions from May 1st to May 31st ● Social distancing after May 31st	Optimistic and pessimistic scenarios included

Projected national cases
● For every month:
    ○ Total cases
    ○ Symptomatic cases
    ○ Cumulative detected cases
    ○ non-ICU beds in use
    ○ ICU beds in use
    ○ Cumulative deaths
	Optimistic and pessimistic cases included
	
	Projects June 1st to November 1st
	
	Provides predicted values, along with predicted maximums and minimums

Key parameter values: Provides key parameters used to inform models/predictions for: ● Infection severity (proportions of total cases for varying severities) ● Timeframes and treatment durations (shown in days)	-
Sensitivity analysis: Analyzes effects of different parameters on epidemic peak: ● Different proportions of infectious asymptomatic cases ● Relative infectiousness of asymptomatic vs. symptomatic ● Infectious duration of asymptomatic vs. mild infections ● Distribution of mild, severe, and critical cases, uses age specific values	Optimistic and pessimistic scenarios provided Severity distribution taken WHO-China mission report, adjusted for South African population

Estimating Cases for COVID-19 in South Africa: provincial projections

Data	Notes

Projected provincial cases
- For every month:
   ○ Total cases
   ○ Symptomatic cases
   ○ Cumulative detected cases
   ○ non-ICU beds in use
   ○ ICU beds in use
   ○ Cumulative deaths
	Optimistic and pessimistic cases included
	
	Projects June 1st to November 1st
	
	Provides predicted values, along with predicted maximums and minimums

Other reports

Daily report

Data	Notes
Person-level case data: - New cases in the last 24h - Total cases (appears to be running total) - Cumulative count including public and private data	Private vs. public cases shown as different colored bars in bar graph, exact values not provided
Cumulative cases by province: provides number of cases in each province in bar graph	–
Cumulative cases by age and sex: - Total number of male cases - Total number of female cases - Total number of unknown cases - Number of male and female cases per different age groups of 4 years	Cases per age group shown as bar graph, exact values not provided for each age group

COVID-19 PCR testing data:
- Total number of public and private tests used:
   ○ Number of new tests
   ○ % totals
- Total number of passive case finding test and community screening tests used:
   ○ Number of new tests
   ○ % totals
	–

Comparison of daily tests performed and cases: compares of the course of about a month	–

Hospital surveillance

Data
- Hospital admissions by epidemiological week: - Total hospital admissions   - Number of public hospital and private hospital admissions per epi week   - Admissions reports by province (per epi week)   - Total and current healthcare workers admitted   - Interventions for admitted patients: - Ventilation   - Oxygen   - Ward of currently admitted patients: - General   - ICU   - High care   - Isolation   - Hospital admissions by age group and sex   - Admissions by discharge type: - Alive   - To another hospital   - Deceased   - Deaths by age group and sex   - Deaths by epi week in private and public hospitals   - Summary of admissions for private vs. public hospitals by province   %ICU and % ventilated for: - Gauteng   - Western Cape   - Eastern Cape   - KwaZulu Natal

Initial and daily COVID reproductive number

Data	Notes
Epidemic curve: - Number of local and imported cases over course of about two months - Estimated R, shows mean R over the course of: - Initial transmission - Flight restrictions and school closures - Stage 5 lockdown - Stage 4 lockdown	Data provided for South Africa, Western Cape, Eastern Cape, Gauteng, KwaZulu Natal

COVID-19 Weekly Epidemiological Brief

Data

Cumulative data:
    ● Total cases
    ● Cases this week
    ● # of people at incident risk
    ● Median age
Provincial data:
    ● Total cases
    ● Incident risk per 100,000 people
Specimen testing:
    ● Cumulative total
    ● # of private and public tests
Cases by province:
    ● Cumulative total cases
    ● Cases per province
Laboratory confirmed cases and incident risk by province:
    ● Total cases per province
    ● Proportion of total cases in each province
    ● Incident risk per 100,000 people
    ● Change in incidence risk
    ● Tests per 100,000 people
Cumulative incidence risk per 100,000 people by province (graph)
Number of male and female cases by age group
Cumulative incidence risk for male, female, and total populations
Cumulative deaths

Private consultations surveillance report

Data

Number of confirmed or suspected respiratory consultations for inpatients and outpatients [for COVID-19 indication] by week
 	
All respiratory COVID-19 indicators for [measured by threshold activity] by:
    ● Age ranges
    ● province

COVID-19 Sentinel Hospital Surveillance

Data

● Number of hospitals reporting COVID data (for public and private sectors):
        ○ National
        ○ By province
    ● Number of COVID admissions by province
    ● Number of COVID admissions for public vs. private hospitals

- Number of female and male COVID admissions by age group
- Reported comorbid admissions among COVID-19
- Percentage isolated and percentage ventilated per epi week
- COVID deaths for public and private hospitals
- Analysis of different factors associated with mortality

COVID-19 Testing Summary

Data

Total tests conducted
Highest proportions of age groups testing positive
Number of specimens tested over the course of a month
Weekly number of tests conducted and positive tests
Weekly number of tests conducted and positive tests by sector
Mean number of days between date of collection and date of result:
   ● By province
   ● National
   ● By laboratory
Percentage positive tests by province
Weekly positive tests from public sector community testing by province
Public healthcare facilities with high percentage of positive tests
Health sub-districts with high proportion of positive tests
Mean age and sex ratio of tested individuals
Weekly proportion of positive tests by age group and sex