**Table S1.** Summary of COVID-19 public health and social measures implemented by the South African Government to curb the spread of COVID-19. [2]

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| **Alert level** | **Public health and social measures implemented** | **Dates of implementation** |
| Alert Level 5 | * Every person was confined to their place of residence unless for performing essentials services or obtaining essential goods. * Schools, early childhood development and high education institutions were closed. * People were required to wear face masks/coverings in public spaces. * Interprovincial and intraprovincial travel was prohibited and borders were shut. * Retail shops and shopping malls were closed, except if they were providing essential goods. * The sale of alcohol and cigarettes and tobacco products was prohibited. * Limitations on the capacity and operating times for public transport. | 26 March – 30 April 2020 |
| Alert Level 4 | * Every person was required to be in their place of residence from 21:00 – 04:00. Exceptions included essential services, attending to security or medical emergencies, and air travel arrivals. Fines were implemented for persons not adhering to the curfew. * Schools, early childhood development and higher education institutions were closed. * People were required to wear face masks/coverings in public spaces. * Interprovincial and intraprovincial travel for leisure was prohibited and boarders were shut. * Supermarkets, retail shops and shopping malls had limitations on capacity. * The sale of alcohol and cigarettes and tobacco products were prohibited. * Limitations on the capacity of public transport. * Attendance of funerals and cremations was limited to 50 persons or less. All other social gatherings were prohibited. | 1-31 May 2020  28 June – 15 July 2021 |
| Alert Level 3 | * Every person was required to be in their place of residence from 22:00 – 04:00. Exceptions included essential services, attending to security or medical emergencies, and air travel arrivals. Fines were implemented for persons not adhering to the curfew. * Schools and early childhood development reopened with social distance measures in place where feasible. Higher education institutions also started to open. * People were required to wear face masks/coverings in public spaces. * Interprovincial travel was permitted. There was a partial re-opening of borders and international air travel was restricted to international airports. * Supermarkets, retail shops and shopping malls were open with compliance to safety measures. * Alcohol ban was briefly lifted but reintroduced in Jul 2021. Bans on the sale cigarette and tobacco products were only lifted on 17 August 2021. * Limitations on the capacity of public transport. * Limitations on gatherings. | 1 June – 17 August 2020  29 December 2020 – 28 February 2021  16 June 2021 – 27 June 2021  26 July – 12 September 2021 |
| Alert Level 2 | * Every person was required to be in their place of residence from 23:00 – 04:00. Exceptions included essential services, attending to security or medical emergencies, and air travel arrivals. Fines were implemented for persons not adhering to the curfew. * Schools, early childhood development and higher education institutions remained open with social distance measures in place where feasible. * People were required to wear face masks/coverings in public spaces. * Interprovincial travel was permitted. There was a partial re-opening of borders and international air travel was restricted to international airports. * Supermarkets, retail shops and shopping malls were open with compliance to safety measures. * Limitations on the capacity of public transport. * Limitations on gatherings. | 18 August – 20 September 2020  13-30 September 2021 |
| Alert Level 1 | * Schools, early childhood development and higher education institutions remained open with social distance measures in place where feasible. * People were required to wear face masks/coverings in public spaces. * No restrictions on travel. Travelers had to provide proof of vaccination or a negative COVID-19 test. * Supermarket, retail shops and shopping malls were open with compliance to safety measures. * Limitations on the capacity of public transport. * Proof of vaccination or a negative COVID-19 test was required for gatherings. | 1 March – 30 May 2021  1 October 2021 – 4 April 2022 |

**Table S2.** Changes in lower respiratory tract infection admissions among children <5 years after the implementation of different COVID-19 public health and social measures in public sector facilities in the Western Cape, South Africa (January 2019 – November 2021) overall (column headed “Entire period”) and for the different restriction periods each relative to the previous period (subsequent columns) among children who were not coinfected with COVID-19 during their LRTI admission.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Entire period** | **Different restriction periods based on PHSMs compared with the immediate preceding period** | | | | | |
|  | **COVID-19 vs pre-COVID-19** | **First implementation of PHSM vs pre-COVID-19 \*** | **Second vs first implementation of PHSM\*\*** | **Third vs second implementation of PHSM\*** | **Fourth vs third implementation of PHSM\*\*** | **Fifth vs fourth implementation of PHSM\*** | **Sixth vs fifth implementation of PHSM\*\*** |
| **Interruptions** | | | | | | | |
| Time period | Jan 2019 – Nov 2021 | Jan 2019 – Aug 2020 | Apr – Dec 2020 | Sept 2020 – Feb 2021 | Jan – June 2021 | Mar – Aug 2021 | Jul – Nov 2021 |
| Interruption | Apr 2020 | Apr 2020 | Sept 2020 | Jan 2021 | Mar 2021 | Jul 2021 | Oct 2021 |
|  |  |  |  |  |  |  |  |
| **Model output** | | | | | | | |
| Step change (IRR, 95% CI) | **0.86**  **(0.79-0.94)** | **0.62**  **(0.52-0.73)** | 1.12  (0.96-1.32) | 0.85  (0.72-1.00) | 0.99  (0.69-1.41) | 0.92  (0.68-1.25) | 1.02  (0.87-1.19) |
| Trend change (IRR, 95% CI) | **1.03**  **(1.02-1.04)** | **1.10**  **(1.05-1.16)** | **0.85**  **(0.76-0.94)** | **1.41**  **(1.13-1.76)** | 0.86  (0.59-1.25) | 0.95  (0.84-1.08) | 1.13  (0.97-1.31) |
| Average post-interruption trend (IRR, 95% CI) | **1.02**  **(1.01-1.02)** | **1.09**  **(1.03-1.14)** | 0.92  (0.85-1.00) | **1.21**  **(1.02-1.44)** | 1.07  (0.97-1.17) | 0.97  (0.89-1.05) | 1.08  (0.96-1.22) |

CI = confidence intervals; IRR = incidence rate ratios; LRTI = lower respiratory tract infection; PHSM = public health and social measures

\* Tightening of public health and social measures

\*\* Relaxation of public health and social measures