The effectiveness of quarantine as measure to control the spread of COVID-19 in South Africa through mathematical modelling.

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Mathematical modelling has established itself as one of the important tools to understand complex and mostly expensive problems in applied science, such as engineering, public health, etc. During the recent COVID-19 outbreak, a range of tools were implemented to understand and control the spread and try to reduce human suffering. A wide range of mathematical models were suggested by researchers to improve the control methods and to identify the main contributors to the spread. In this study, a compartmental modeling technique is used to better understand the dynamics of the pandemic and assess the effectiveness of quarantine as a control measure with a particular interest to the South African experience.

Keywords and phrases: Mathematical modelling, COVID-19, Quarantine.