
Technical paper

COVID 19

Reduction in all-cause mortality in Kerala during COVID-19
pandemic



Department of Health & Family Welfare

Government of Kerala

Introduction

Throughout the world the measurement of service delivery and efficacy of Governance is measured by seeing various socio-economic indicators. Similarly, in health sector there is one of the most important indicators measured is mortality.

The world is grappling with the COVID pandemic from January 2020 onward has adversely affected the health service provisioning across the globe. Therefore, it is important to see the all-cause mortality trend over a period of years and compare with the death rate in 2020. The places where the death registration in the countries and states is not 100% will be needing to measure the registration and do extrapolation regarding deaths happening in such places by doing back series analysis.

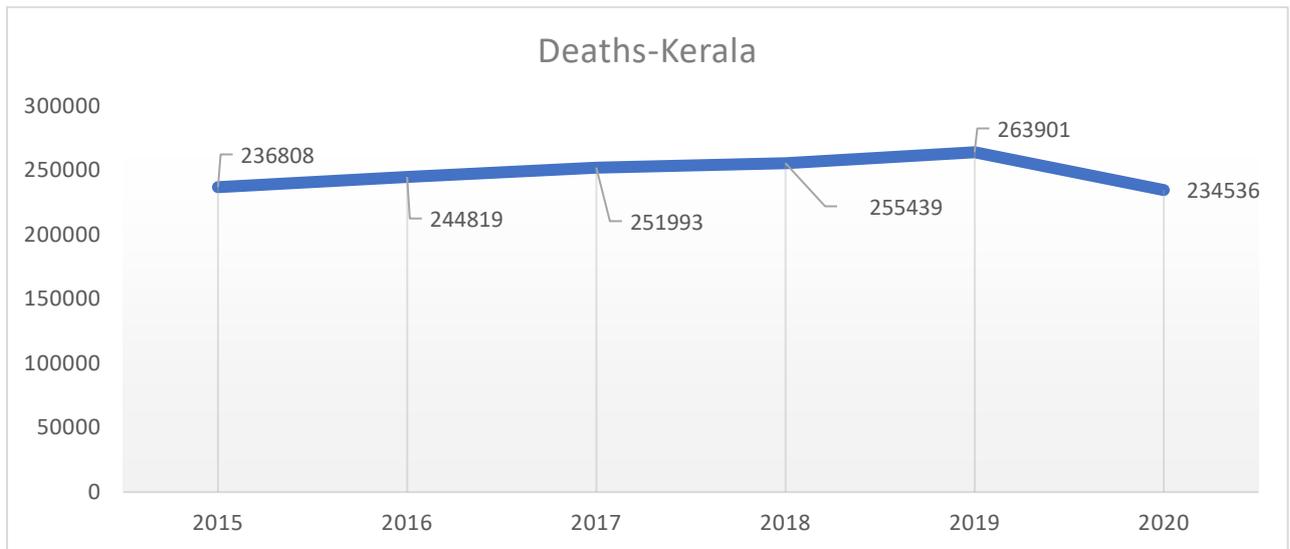
The following report gives information on all-cause mortality in Kerala, which will reflect that specific interventions of the department of Health and Family Welfare and interventions of the line departments regarding the social determinants of health is giving the desired result of improving quality of life and reducing mortality.

Reduction in all-cause mortality in Kerala during COVID-19 pandemic

Registration of births and deaths is an important source for demographic data for socio-economic development and population control in developing countries. Civil Registration System is a continuous, permanent and compulsory recording of the occurrence and characteristics of vital events. As per the Kerala Registration of Births and Deaths Rules 1999, which was published as per the order G.O.(P)No.8/2000/LSGD dated 06/01/2000, Director of Panchayath is the Chief Registrar of Birth and Deaths in Kerala and the Chief executive authority for implementing the provisions of the Registration of Birth and Death Act. Previous evaluations have showed that Kerala is having a high level of registration of births and deaths, nearly universal. (<https://india.unfpa.org/sites/default/files/pub-pdf/ReportonCRS-Final.pdf>)

Registration of vital events data shows that, in Kerala state, there is a 11.1 % reduction in absolute number of deaths in 2020 when compared to 2019. When converted to crude death rates it was 7.5/1000 population in 2019 and is only 6.8 per 1000 population in 2020.

Fig 1: Absolute Number of Deaths reported in Kerala (2015-2020)



Source of data: <https://cr.lsgkerala.gov.in/Pages/map.php>

Most of the developed countries reported a huge increase in number of all cause mortality during COVID-19 pandemic.

Comparison of deaths in Kerala with other countries

State/Country	COVID-19 deaths/1000 population	Total deaths (all-cause mortality) 2019	Total deaths (all-cause mortality) 2020	Annual crude death rate per 100000 2019	Annual crude death rate per 100000 2020
Kerala	8.4	263901	228739	755	681
USA	106	1443000	1626000	871	972
Italy	124	435250	475674	1447	1571

This is the result of all preventive and promotive steps taken by Government of Kerala during 2020. This also shows the success of steps taken in providing preventive and curative health services by the health services department.

Footnote: Similar robust data is not available for India or other states as there is a big drop in registration of vital events.

In Kerala, there might be a delay in registration of vital events and some more deaths might get reported in 2020, but it has to be noted that 92% of births have been registered in the vital registration system in 2020 as compared to 2019, so it reflects the left-out portion will be minimal.

Discussion:

It is expected that at the national level a robust longitudinal study to be conducted. The study should cover the last five years prior to 2020 to do back series analysis. Then specifically do analysis of mortality in the year 2020 and subsequent five years.

The posterity will have the evidence to see how the war against COVID was fought by the respective States and the Country as a whole.

We solicit the feedback.