SARVA provides baseline data for assessing COVID-19 vulnerabilities of South African communities

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Introduction

The South African Environmental Observation Network (SAEON) is the lead agency and implementer of the South African Risk and Vulnerability Atlas (SARVA), an initiative of the Department of Science and Technology. SARVA is currently in its third phase of development and a new release is planned for April/May 2020.

The objective of SARVA is to profile the vulnerability of local municipalities and proactively strengthen the ability of the people of South Africa to cope with disasters through a range of decision-support tools including infographics, indicator dashboards and atlas views.

SARVA disseminates spatial and non-spatial data that describes, assesses and evaluates the risks and vulnerabilities facing the country as a consequence of global change impacts including climate change and biodiversity loss.

The SAEON team has been collecting, curating and analysing data relevant to understanding the risk and vulnerability of South Africa to a range of hazards. A core focus of the team has been on a dataset from the Department of Health (DoH) with 256 health indicators for local and district municipalities from 2008 to 2019. Over the last six months, the SARVA team has been analyzing and creating visualizations on topics like maternal health, HIV, demographics, for the next release of SARVA. The end goal within SARVA is to provide higher resolution data for local municipalities to track progress towards achieving the Sustainable Development Goals.

SAEON's key contribution is providing open access to decision-ready data and the translation of data into a digestible narrative using infographics and dashboards.
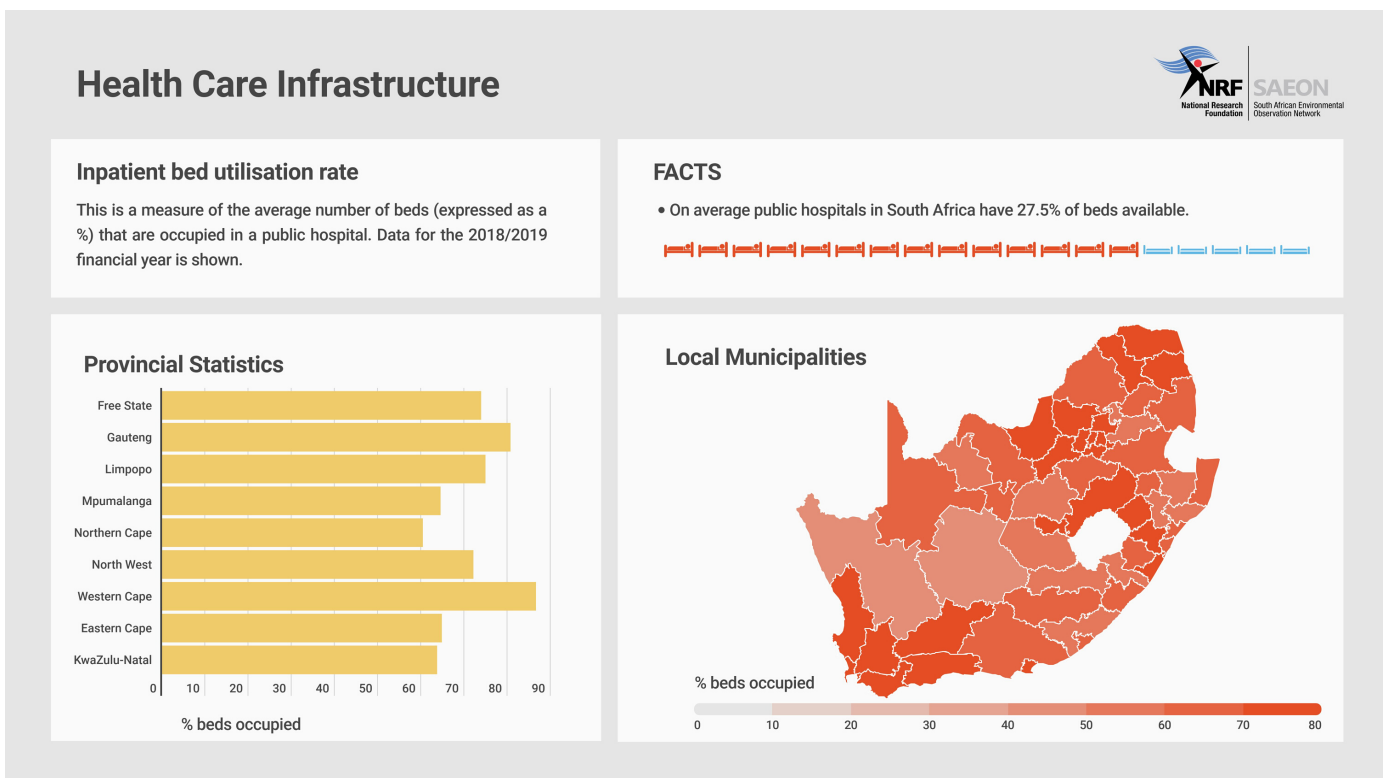
COVID-19

Producing Decision–Ready Data

After the announcement of the spread of COVID-19 in South Africa, the team started creating a comprehensive list of preparedness indicators.

The vulnerability indicators draw on the latest publicly available data from the Department on Health as well as other datasets hosted in SAEON's Open Data Repository, including environmental variables like ambient temperature and humidity. The open access resource provides a direct download link of data in tabular or spatial data format.

This data has been shared with the CSIR Task Team developing composite indicators (www.greenbook.co.za) as well as the Telkom / NICD team developing the mobility index.

The online resource (www.sarva.saeon.ac.za/covid-19) serves to provide data, tools, visualisations and analytics in support of planning and response activities to the COVID-19 Pandemic in South Africa. Datasets will be continually added and will be grouped in themes according to to Exposure, Sensitivity and Impact.

HOSPITAL BEDS ARE USED TO INDICATE THE AVAILABILITY OF INPATIENT SERVICES. SOUTH AFRICA HAS ON AVERAGE 18 HOSPITAL BEDS PER 10,000 UNINSURED POPULATION COMPARED TO ITALY WHICH HAS 34 BEDS PER 10,000 POPULATION.

Health Care Infrastructure

Inpatient bed utilisation rate

This is a measure of the average number of beds (expressed as a %) that are occupied in a public hospital. Data for the 2018/2019 financial year is shown.

FACTS

• On average public hospitals in South Africa have 27.5% of beds available.

Provincial Statistics

% beds occupied

Local Municipalities

% beds occupied

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Infographics have been developed to assist in the translation of the data and the risk and vulnerability indicators to understand which communities in South Africa are most at risk of COVID-19.

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COVID-19

Producing Value Added Products

In addition to making the indicator data openly available, the SAEON team is busy are producing

- A set of **indicator dashboards**, developed for SARVA, to aid the understanding of the factors that may amplify the risk of the coronavirus disease (abbreviated as COVID-19) for local communities in South Africa. It highlights:
  - Potential high risk areas for the spread of COVID-19
  - Vulnerability of people to the disease with a specific focus on age distribution and the burden of disease;
  - Ability of the healthcare system to cope with the infected population.

- A customised version of the SARVA **risk profiler** for COVID-19 that allows users to change the thresholds of risk in a dynamic manner such as the minimum number of beds required or the number of medical professionals to cope with the current rate of infection. This is to accommodate different regions across the country that may face different challenges that are context specific.

85%

South Africans who are uninsured and rely on the public health system.
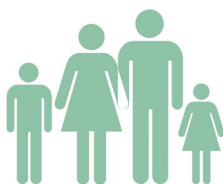
63%

Proportion of health facilities with availability of the WHO-recommended core list of essential medicines.

55%

Percent 'Ideal Clinics' with good infrastructure, adequate staff, and adequate medicine and bulk supplies.

Contact Us

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South African Risk and Vulnerability Atlas
https://sarva.saeon.ac.za

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South African Risk and Vulnerability Atlas

MAPPING THE WAY TO A RESILIENT FUTURE

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