



# DATCOV Sentinel Hospital Surveillance For COVID-19

7 July 2020

Compiled by Prof Lucille Blumberg  
And DATCOV19 team



**NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES**

Division of the National Health Laboratory Service

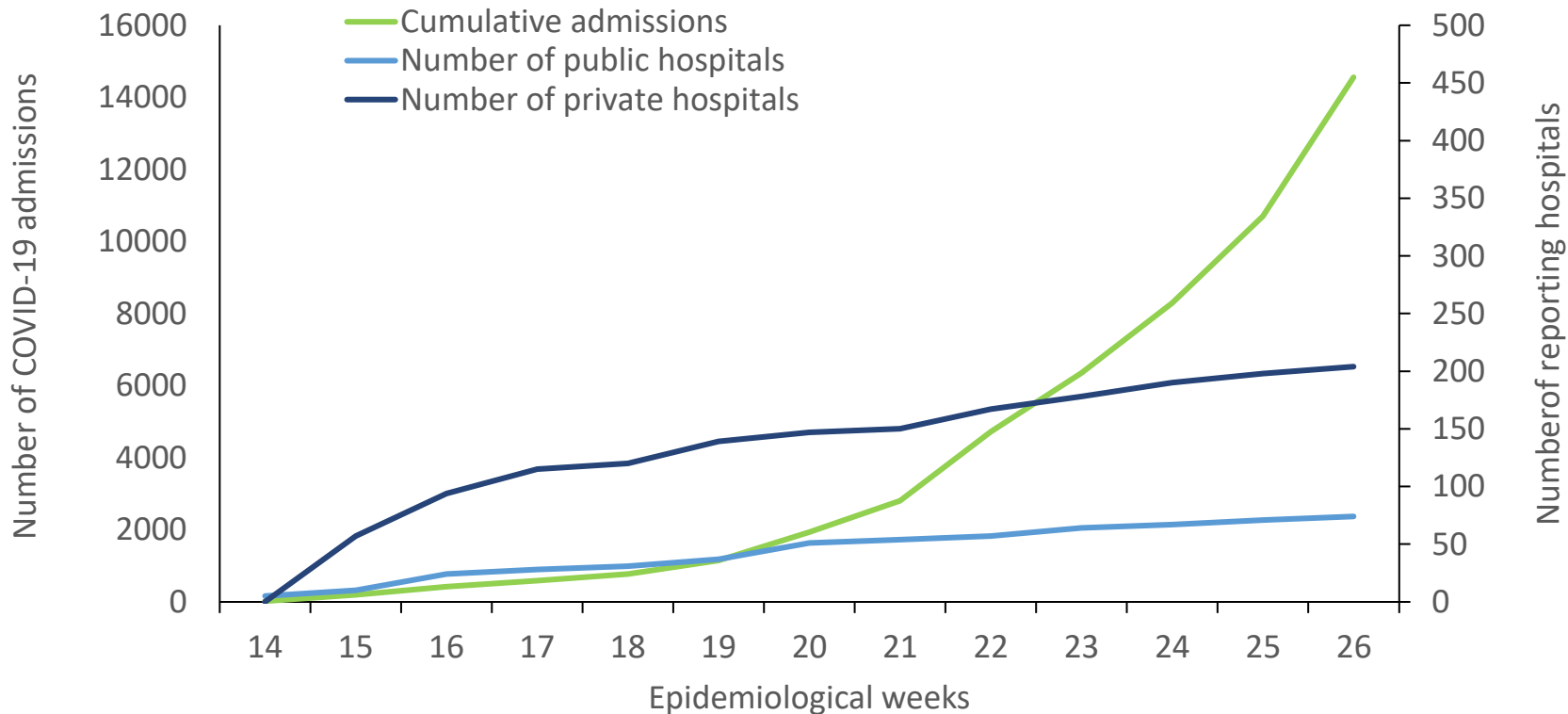
# Purpose

- Aim: to monitor trends in COVID-19 admissions and describe the epidemiology of COVID-19 in hospitalised patients in South Africa
  - Clinical: to describe the epidemiology of the outbreak, including the age, sex, race and comorbidity profile of patients who required hospital admission and developed severe disease. This can be used to inform policy decisions regarding targeted preventive and control measures in specific groups of the population.
  - Programmatic: to describe the distribution of hospital admissions between provinces and between the public- and private-health sectors; and to describe treatment in intensive care units (ICU), requirements for supplemental oxygen and invasive ventilation. This can be used to inform healthcare managers at all levels in both health sectors, to anticipate resource demands and to plan for resource allocation.



# **PROGRESS IN IMPLEMENTATION**

# Cumulative numbers of reporting hospitals and COVID-19 admissions, South Africa, 5 March – 28 June 2020



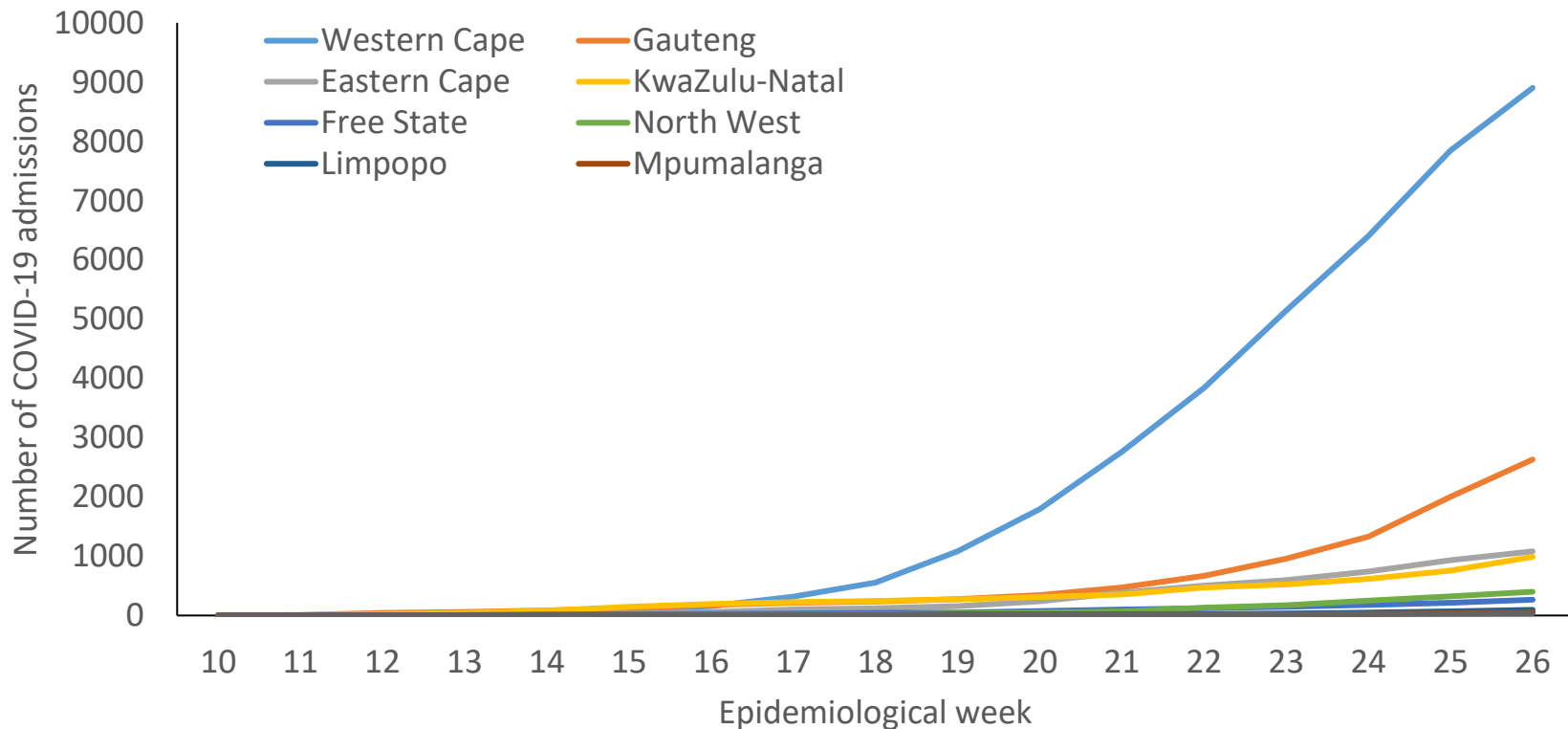
Number of hospitals reporting data on COVID-19 admissions by province and sector, South Africa, 5 March-28 June 2020

Name of province	Public Sector	Private Sector
Eastern Cape (EC)	8	12
Free State (FS)	4	14
Gauteng (GP)	5	74
KwaZulu-Natal (KZN)	5	37
Limpopo (LP)	1	6
North West (NW)	2	12
Northern Cape (NC)	1	6
Western Cape (WC)	48	36
Mpumalanga (MP)	0	7
South Africa	74	204

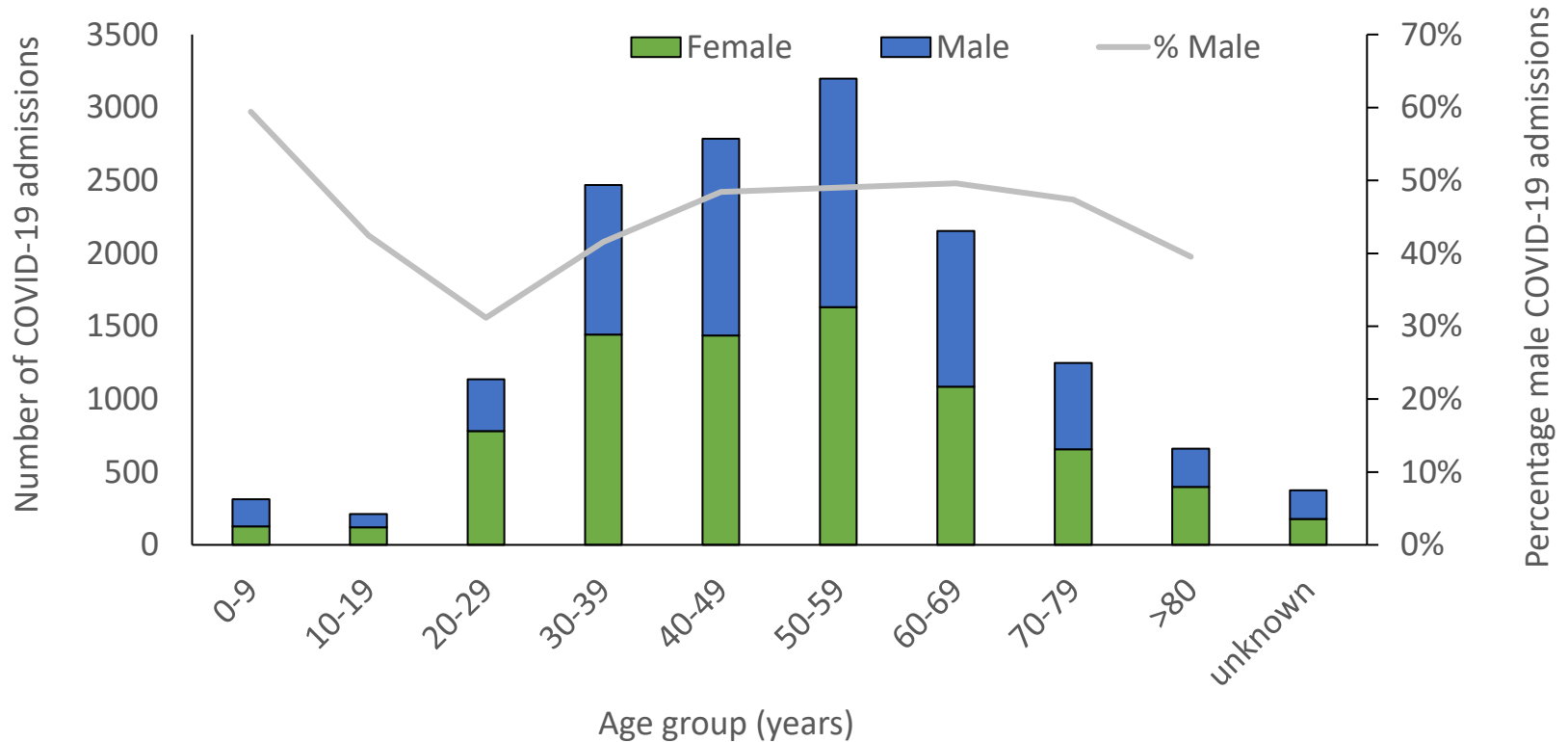


**DATA ANALYSIS: 28 JUNE 2020**

# Cumulative numbers of reported COVID-19 admissions, by province and epidemiological week of diagnosis, South Africa, 5 March-28 June 2020, n=14555



# Number of reported COVID-19 admissions by age and gender, and percentage male, South Africa, 5 March-28 June 2020, n=14555





Reported comorbid diseases among COVID-19 admissions reporting at least one comorbid disease, South Africa, 5 March-28 June 2020, n=7732 (53%)

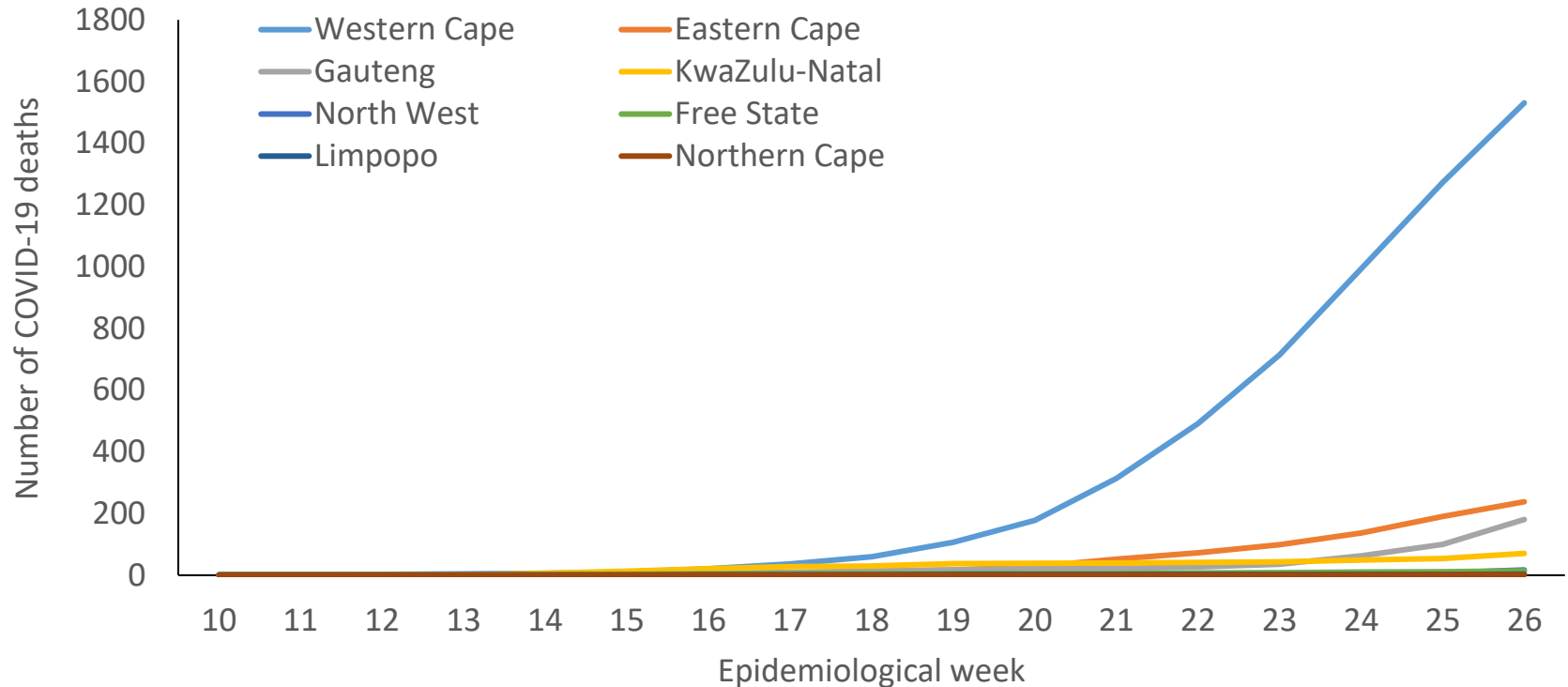
Comorbid disease	n	%
Hypertension	4510	58%
Diabetes mellitus	3770	49%
Chronic cardiac disease	309	4%
Chronic pulmonary disease/ Asthma	1170	15%
Chronic renal disease	592	8%
Malignancy	127	2%
HIV	1479	19%
Active TB	304	4%
Previous history of TB	746	10%

Outcomes of reported COVID-19 admissions, South Africa, 5 March-28 June  
2020, n=14555

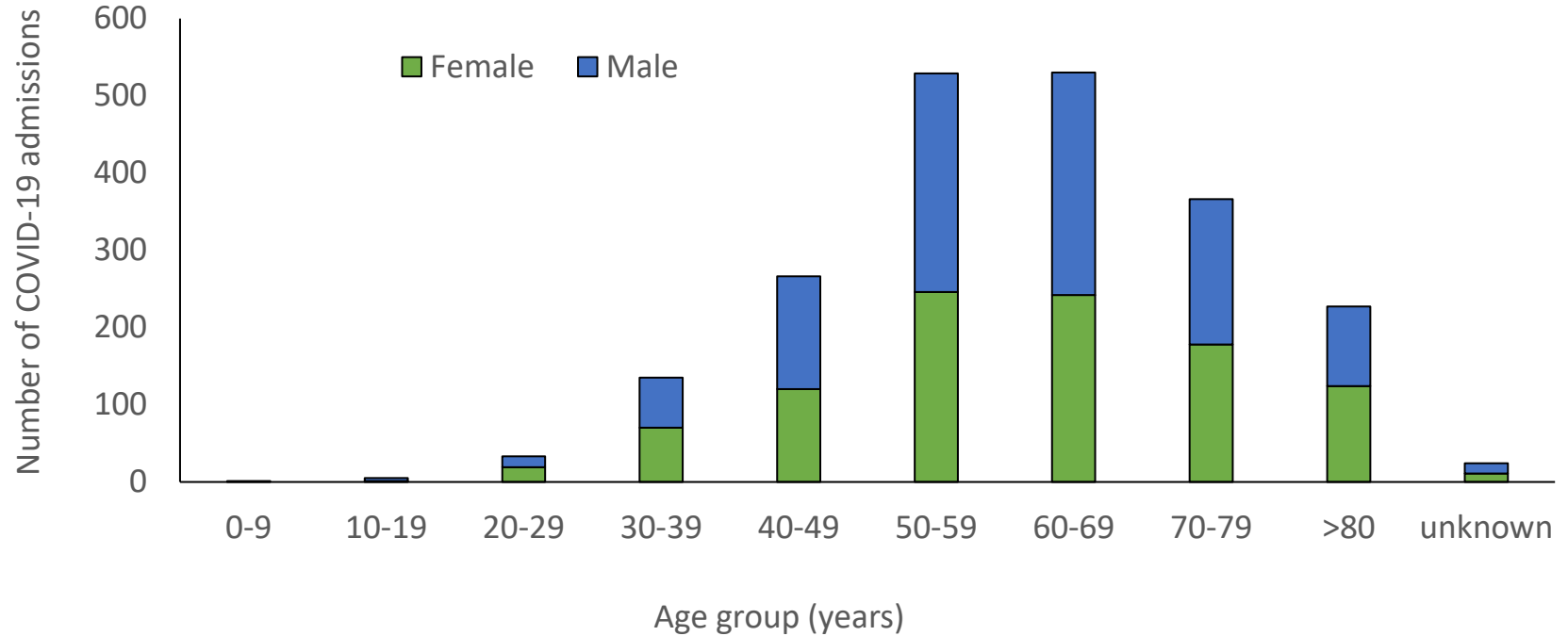
Outcomes	n	%
Discharged alive	8043	55
Transferred out	146	1
Died	2116	15
Currently in hospital	4250	29

The case fatality ratio (CFR) for 10,159 admissions with an outcome (died or discharged) was 21%

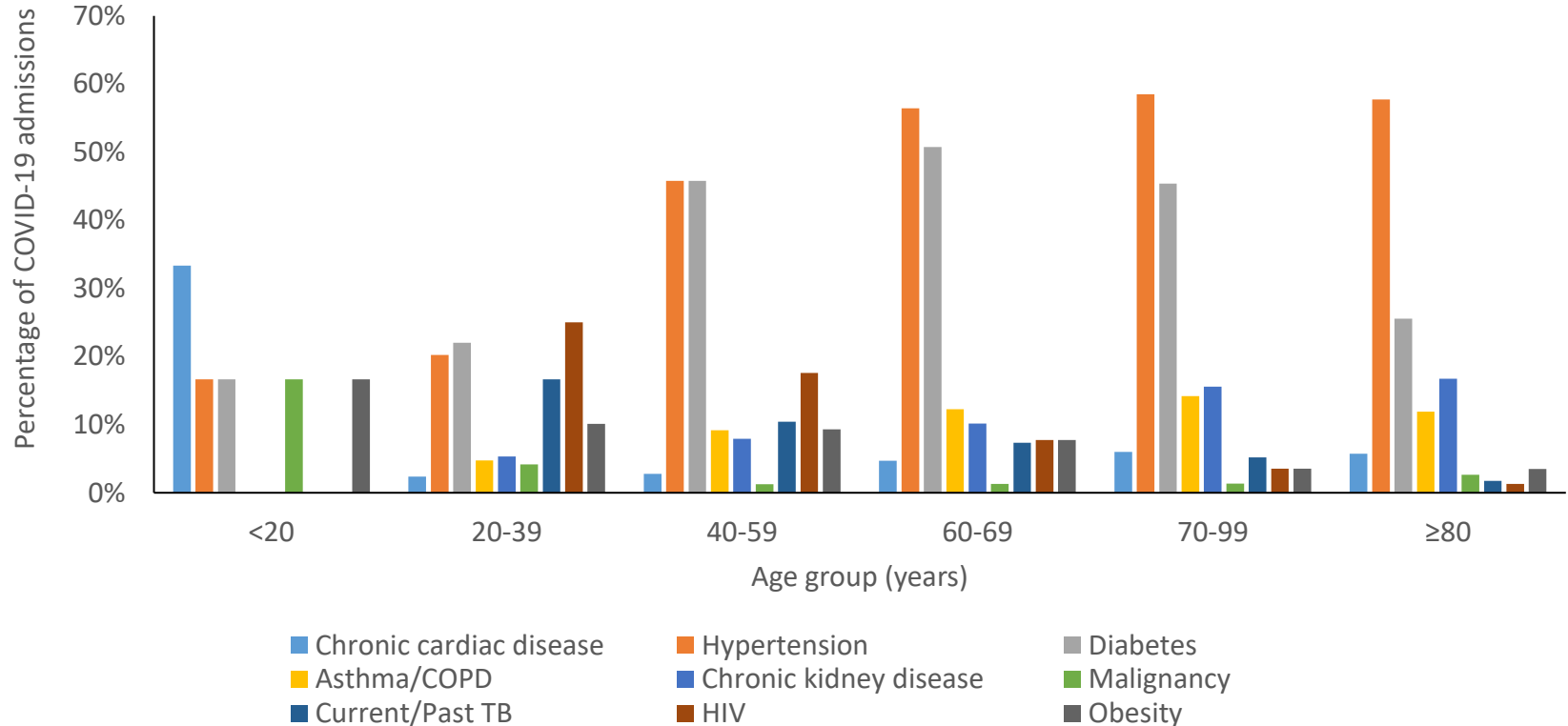
# Cumulative numbers of reported COVID-19 deaths, by province and epidemiological week of death, South Africa, 5 March-28 June 2020, n=2116



# Number of reported COVID-19 deaths by age and gender, South Africa, 5 March-28 June 2020, n=2116



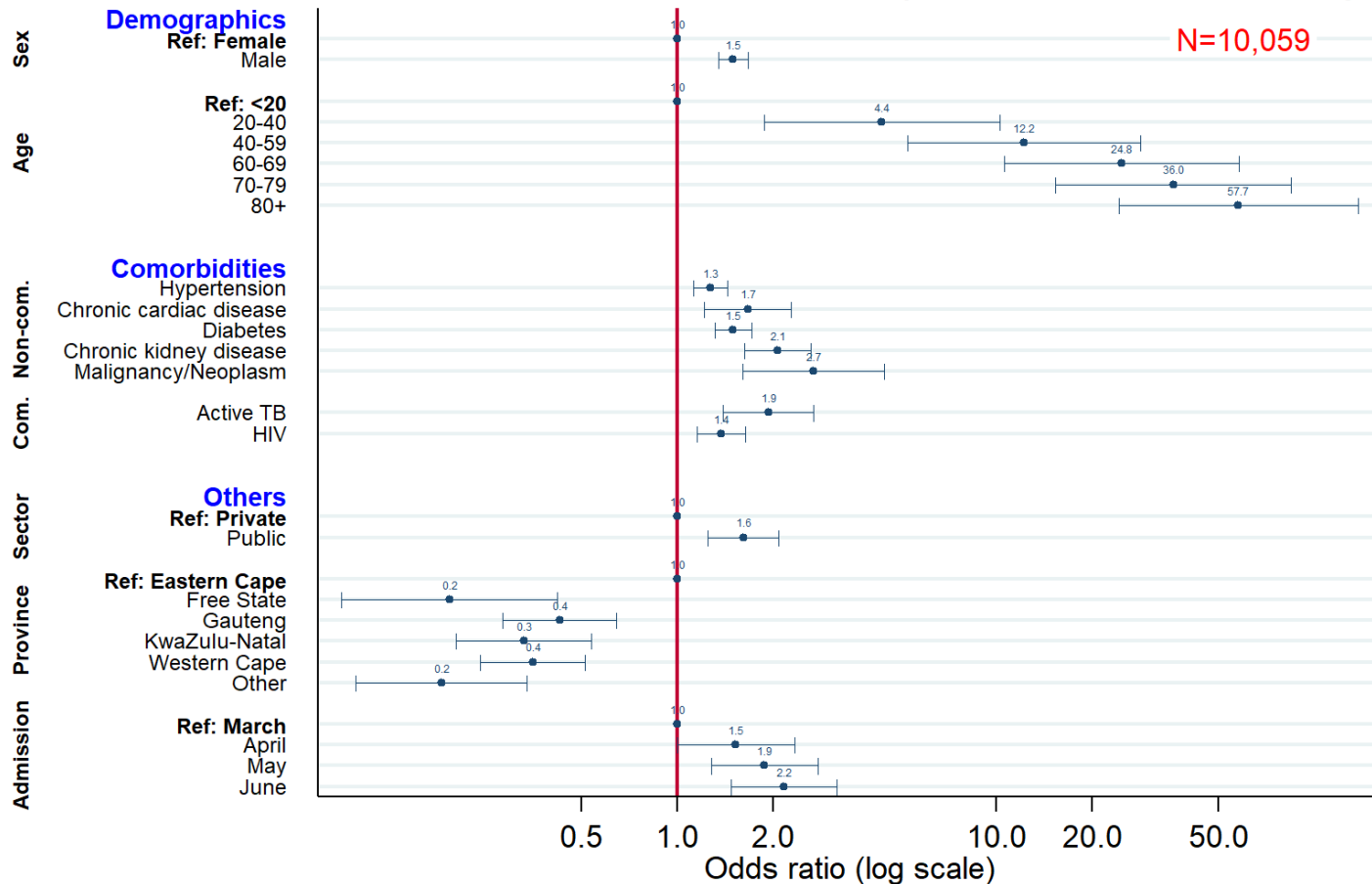
# Frequency of comorbid conditions for reported COVID-19 deaths by age group, South Africa, 5 March-28 June 2020, n=2116





**MULTIVARIABLE ANALYSIS OF FACTORS ASSOCIATED WITH MORTALITY  
AMONG 10059 HOSPITAL SEPARATIONS (DISCHARGES AND DEATHS),  
SOUTH AFRICA, 5 MARCH-28 JUNE 2020**

# Factors associated with in-hospital COVID-19 mortality



Data source: NICD-DATCOV19



# **DISCUSSION**



# High risk for severe disease and mortality

- Older age
- Male sex
- Multimorbidity
- Comorbidities
  - Hypertension
  - Diabetes
  - Chronic cardiac disease
  - Chronic renal disease
  - Malignancy
  - HIV
  - Tuberculosis
- Obesity important
- Not available in DATCOV :
  - Newly diagnosed versus pre-existing
  - Level of control (Diabetes, etc)
  - HIV: viral load, CD4
  - Age versus wellness/ frailty



# Limitations

- Sentinel surveillance does not include all hospitals and therefore may not be truly representative of hospital admissions for COVID-19 throughout South Africa (comparison with NDoH deaths reported to the media found 83% coverage of deaths).
- DATCOV only reports hospital-based admissions and deaths and therefore does not include deaths occurring outside hospitals.
- Data quality dependent on information submitted by healthcare institutions. It is not possible for the NICD to verify or check the quality of all data. However, the NICD has built-in data quality checks.



**ENQUIRIES: [DATCOV19@NICD.AC.ZA](mailto:DATCOV19@NICD.AC.ZA)**