

Uncovering the Burden: Analysis of Surveillance Data for Severe Maternal Morbidity and Maternal Mortality in the Dominican Republic, 2018-2022

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Background

In recent decades, the Dominican Republic has prioritized reducing maternal mortality rates. However, despite interventions and 99% skilled health personnel attendance during births, the country still ranks high in maternal mortality rates among American nations. This epidemiologic report aims to describe severe maternal morbidity (SMM) and maternal mortality (MM) in the Dominican Republic from 2018 to 2022.

Description of the Surveillance System

As a precursor to mortality, SMM is part of surveillance. Both events must be reported to the National Epidemiological Surveillance System (SINAVE) within 24 hours. A social autopsy, necropsy, and clinical audit are conducted to confirm the cause of death and identify critical points in the quality of care.

Methods

Data from SINAVE was provided by the General Directorate of Epidemiology.

Results

- ↑ MM rates were observed in 2020 & 2021; ↑ SMM rates in 2021 & 2022.
- Majority of cases identified as Dominican, followed by Haitian origin.
- Median age: SMM (25 years, IQR: 10), MM (28 years, IQR: 11).
- High prevalence of high school education among cases.
- Majority of events occurred during pregnancy.
- Leading clinical characteristics reported in MM: pulmonary conditions, hypertensive disorders of pregnancy, and bleeding in pregnancy.
- Provinces along the frontier border exhibited higher MM rates.
- Timely reporting: 47.8% of SMM cases, 49.9% of MM cases.

Conclusions

- Event rates significantly surpassed national goals for MM (<70 deaths/100,000 live births) and SMM (<8 events/1,000 live births).
- The years 2020, 2021, and 2022, coinciding with the COVID-19 pandemic, recorded the highest number of cases.
- Most clinical characteristics reported in maternal deaths are preventable.
- Further research is recommended to investigate barriers to timely reporting and factors influencing the highest MM rates observed in frontier provinces.

Limitations

Summarizing the exact cause of death and clinical conditions that characterize SMM is challenging due to the frequent use of broad ICD codes and an open text field for reporting signs and symptoms.


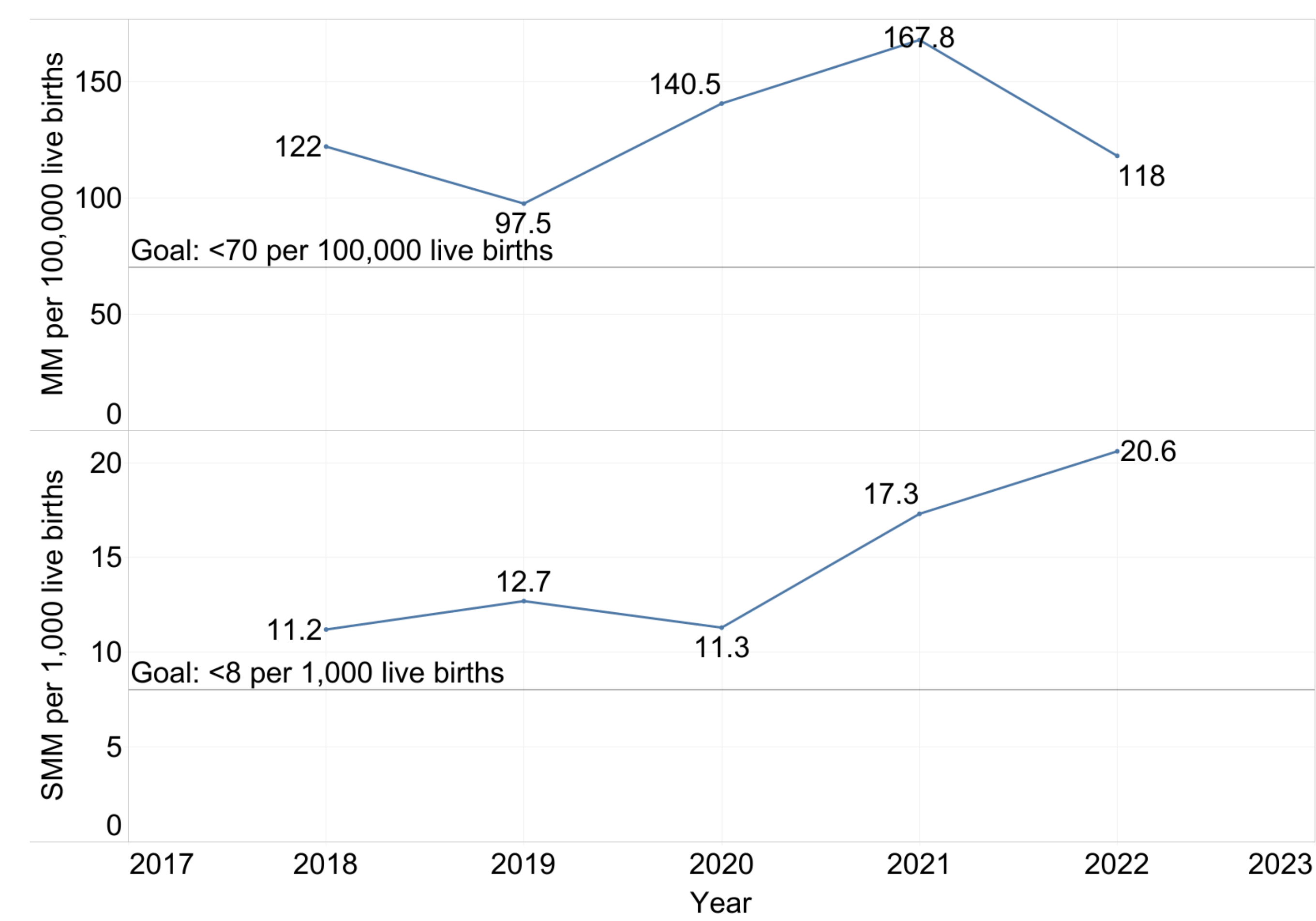
 Scan for Contact Information, References, & Additional Information

Figure 1. Trends in severe maternal morbidity and maternal mortality in the Dominican Republic: 2018-2022.



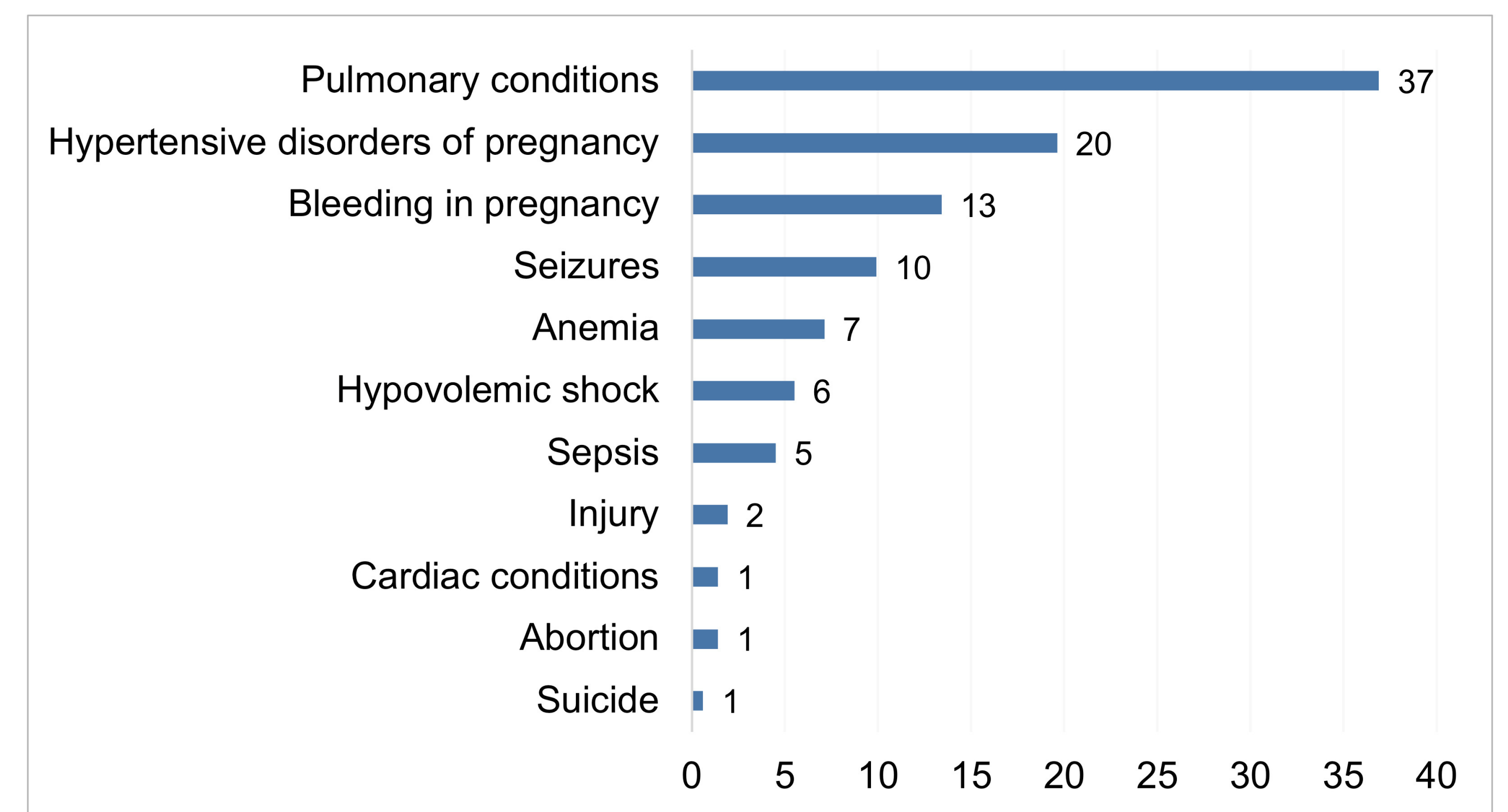
Source: National Epidemiological Surveillance System & National Statistics Office
MM: Maternal Mortality SMM: Severe Maternal Morbidity

Table 1. Characteristics of cases of severe maternal morbidity and maternal mortality in the Dominican Republic: 2018-2022.

	Severe Maternal Morbidity N=12308 n (%)	Maternal Mortality N=1086 n (%)
Origin		
Dominican Republic	9967 (81)	802 (73.8)
Haiti	2308 (18.8)	282 (26)
Other	33 (0.3)	2 (0.2)
Age		
<15	159 (1.3)	3 (0.3)
15-19	2214 (18)	142 (13.1)
20-24	3126 (25.4)	229 (21.1)
25-29	2949 (24)	270 (24.9)
30-34	2150 (17.5)	227 (20.9)
35-39	1318 (10.7)	160 (14.7)
≥40	392 (3.2)	55 (5.1)
Education Level		
No Formal Education	1380 (14.6)	141 (16.5)
Elementary	2730 (28.9)	246 (28.7)
High School	4657 (49.2)	366 (42.8)
Higher Education	692 (7.3)	103 (12)
Timing of Event		
Pregnancy	4979 (50.9)	444 (52.7)
Delivery	1994 (20.4)	126 (15)
Postpartum	2813 (28.7)	272 (32.3)

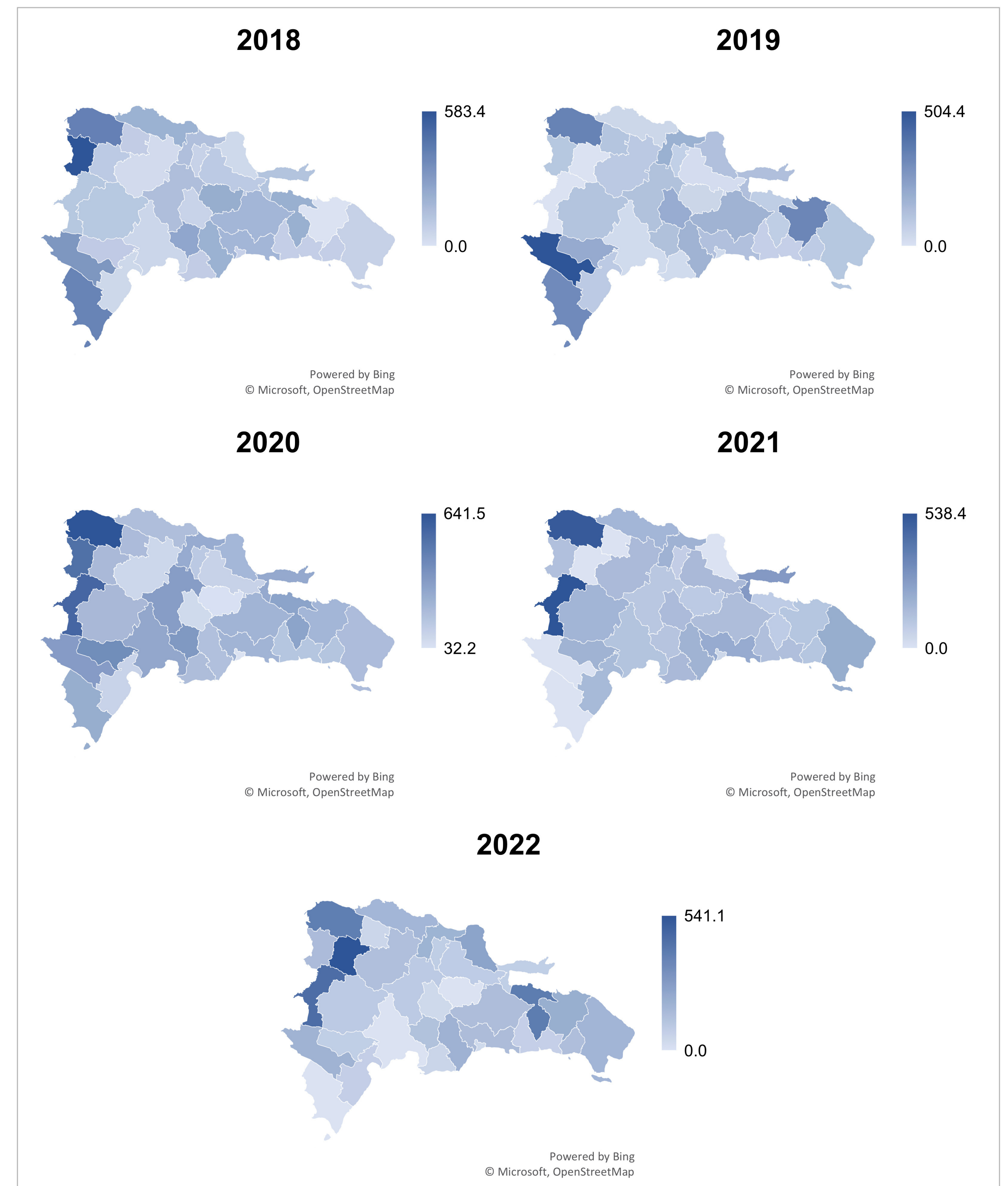
Source: National Epidemiological Surveillance System
Education level was missing for 3079 cases
Timing of event was missing for 2766 cases

Figure 2. Leading clinical characteristics reported in maternal deaths by percentage in the Dominican Republic: 2018-2022 (N=1086).



Source: National Epidemiological Surveillance System

Figure 3. Maternal mortality rate in the Dominican Republic by province: 2018-2022.



Source: National Epidemiological Surveillance System & National Statistics Office