Spatiality and temporality of the Covid-19 epidemic in Senegal. The production process of health data with regard to territorial discontinuities

Véronique PETIT, Nelly ROBIN and Nelly MARTIN

OpenEdition
Journals

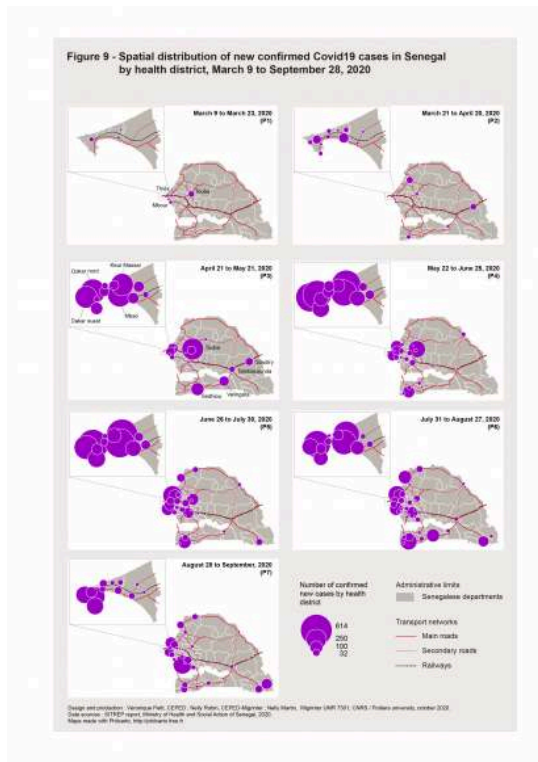This text was automatically generated on 13 June 2021.

Spatiality and temporality of the Covid-19 epidemic in Senegal. The production process of health data with regard to territorial discontinuities

Véronique PETIT, Nelly ROBIN and Nelly MARTIN

1   This paper investigates the temporal and spatial dynamics of the Covid19 epidemic in Senegal from March to September 2020, focusing on a set of scales of analysis. Using heuristic mapping, the questions raised about the continuity vs. discontinuity of the spread of Covid-19 highlight sometimes unexpected findings about the epidemic's diffusion process - in urban areas and between urban and rural areas - that go beyond the simple example of Senegal. This study also sheds light on the management of the Covid-19 crisis, even though Senegal has been held up as an example, thus contradicting certain prejudices against African states.

2   The first methodological section presents the typology of Covid-19 cases, the data sources used, and the screening strategy implemented in Senegal. Confirmed cases include any person, symptomatic or not, with a biological result confirming infection with SARS-CoV-2. They can be broken down into contact cases, community cases, imported cases, and evacuated cases. Contact cases are defined as "a person who has had any of the following exposures during the two days before and 14 days after symptom onset of a probable or confirmed case. Community cases refer to a situation where the chain of infection could not be established without knowing the precise reasons.

3   The data come from two sources. The Ministry of Health and Social Action publishes a daily press release presenting different indicators including the distribution of confirmed cases according to the typology presented above. These cases are sometimes referred to communes, sometimes to neighborhoods, and other times to even smaller

entities. The Situation Reports, called SITREPs, are published twice a week. They contain epidemiological data and information on measures and actions taken in response to Covid-19. They present the number of new confirmed cases in the 79 health districts of the country. The information on confirmed cases is therefore reported on an administrative scale (health districts) different from that used for community cases (infra scale). When entering this information, we recoded and standardized the information on the location of community cases by taking the commune as the basic unit, which then allowed aggregation at the health district level. The aim was to ensure continuity in the analysis between the Dakar region and the other regions of the country, and to establish comparisons between confirmed, contact and community cases.

4   The presentation of the screening strategy and the evolution of the number of tests makes it possible to contextualize the data production process and to appreciate its limitations. This strategy has evolved with the spread of the epidemic and the intensification of the means dedicated to the response, and consequently the conditions for screening are not identical throughout the country and over time.

5   The second part of the article presents and analyzes the landscape of the epidemic (Figure 9). Most of the epidemic in Senegal is located west of a line that runs from Richard-Toll to Sedhiou. The geography of the Covid-19 epidemic is a reality constructed in spatial action; it is reminiscent of the macrocephaly of Senegal's urban system. First, the focus is on the different epidemic centers outside the Dakar region, highlighting the plurality of the epidemic's evolution in the regions of Touba, Thiès and Ziguinchor. The analysis then focuses on the Dakar region, which is the country's main epidemic center, accounting for approximately 75% of confirmed cases.

6   The spatial analysis highlights the specific dynamics of the health districts of the Dakar metropolitan area compared to the other regions of the country. Within the Dakar region, there are disparities between the suburbs and the department of Dakar, which accounts for almost half of the epidemic in this region. The health districts of Dakar department are much more affected by the Covid-19 epidemic than those of the departments of Guediawaye, Pikine and Rufisque, which belong to "a space of contact and transition between the urbanized area and the peripheral rural areas" and are home to a majority of populations from modest economic categories. The overview shows that no health district has a uniform socio-spatial context. The health districts with the highest numbers of Covid-19 are those with the most contrasting socioeconomic and residential situations. This finding suggests that a contrasting socio-spatial context broadens the spectrum of contamination in a district and partly explains why it is obtained in these districts.

Figure 9 - Spatial distribution of new confirmed Covid19 cases in Senegal by health district, March 9 to September 28, 2020

AUTHORS

VÉRONIQUE PETIT

démographe, UMR 196 CEPED IRD– Université de Paris.

NELLY ROBIN

géographe, UMR 196 CEPED IRD – Université de Paris.

NELLY MARTIN

géomaticienne, UMR 7301 MIGRINTER CNRS-Université de Poitiers.