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Epidemiological Surveillance and Rumors on Social Media

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Commentary

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Abstract

The health surveillance system in Cuba has been recognized for its robustness and effectiveness since its implementation, although weaknesses in its application were also acknowledged during the COVID-19 pandemic. The recent outbreak of arboviral diseases in the country provides a new opportunity to reflect on the proper use of epidemiological surveillance activities and the performance of the epidemiologists responsible for fulfill them. Of these arboviral diseases, a brief commentary is made on the disease caused by the Chikungunya virus, whose sequelae have been one of the main health problems affecting the Cuban population. In conclusion, there is no doubt about the effectiveness of epidemiological surveillance actions in preserving and maintaining the health of the population, and the responsibility of epidemiologists in their implementation, so as not to continue accumulating lessons learned.

Keywords: Epidemiological Surveillance; Arboviruses; Social Networks; Epidemiologists

Introduction

Every year on January 4th, we commemorate Cuban Hygienist-Epidemiologist Day, in honor of Enrique Guiteras Gener, an illustrious member of what was known as the Cuban School of Public Health in the early decades of the 20th century, and his dedicated work—among other undeniable contributions—to the control of infectious diseases such as yellow fever and cholera [1].

The epidemiologist, both within and outside of Cuba, develops a scientific discipline that constantly incorporates hygienic aspects related to public health and vice versa; the hygienist undertakes epidemiological actions with a similar purpose. The impact of hygienic-epidemiological activity in Cuban health services is undeniable, from the work of Dr. Gener to the work carried out since the beginnings of the national health system in the 1960s to the present day, including the COVID-19 pandemic. Controlling that pandemic left "lessons learned" – a term promoted in the post-pandemic stage – on the performance of field epidemiologists and the results of surveillance actions as one of the basic uses of epidemiology.

Development

The health surveillance system in Cuba has been recognized for years for its robustness and effectiveness, but the "lesson learned" from the pandemic highlighted the need to develop an in-service training process for these professionals, reinforcing their skills in controlling epidemic outbreaks—known as classic field investigation—as well as adjusting the epidemiological surveillance subsystem to address emerging threats and the potential for new events of

this type [2]. This training process, and especially the renewal of the epidemiological surveillance subsystem, must still be maintained, as evidenced by the current arboviral epidemic in Cuba, officially recognized as such in November 2025 [3].

As expressed in a recent interview, the failure of epidemiological surveillance was evident in the emergence of this epidemic [4]. Without exaggerating or making sweeping criticisms, one of the key aspects of surveillance was neglected: addressing rumors circulating among the population. These rumors should have been investigated and verified in order to act accordingly. In these times of social media and "fake news," any alarm can arise, but it is the obligation of the "epidemiological surveillance officer" to clarify whether what is being disseminated is a false rumor or a significant health event.

In a tropical country, the presence and proliferation of vectors such as arthropods are common, with a high risk of arboviral diseases in the population if control measures are not implemented. Dengue fever was introduced to Cuba in the 1970s, becoming one of the arboviral diseases also prevalent in Latin America [5]. In 1981, Cuba faced a terrible epidemic of dengue hemorrhagic fever with high mortality, and currently, dengue is endemic in Cuba, with three serotypes detected circulating this year [6,7]. With the gradual deterioration of environmental sanitation, which favored the proliferation of breeding sites for the known vector, in addition to the circulation of the dengue and Oropouche viruses, a new arboviral disease emerged in the last half of 2025: Chikungunya. Like Oropouche, it was almost unknown to the Cuban population, and its causative agent is transmitted by the bite of the Aedes aegypti mosquito, a vector permanently present in the territory.

Perhaps this lack of prior contact between the virus and that enormous mass of susceptible individuals contributed to the perception of the rumors circulating on social media about the disease as "fake news" when the first cases appeared in an isolated town in a province. Within four weeks, cases were being reported in 14 out of 15 provinces, and the "rumor" had transformed into a national epidemic [8]. The aim is not to investigate whether there was a delay or slow response to the initial, well-localized outbreak; it is not a matter of identifying culprits. It is simply a matter of observing the adherence to the established steps for controlling an epidemic outbreak and the consequences of the epidemic's subsequent development.

It is a fact that national strategies were and are being implemented in response to this event; resources were mobilized and forces within the health system were strained; a single protocol for managing this arboviral disease was developed; domestic biotechnology products were used to treat the patients, and the situation is being monitored by government authorities at all levels. However, a crucial epidemiological question always arises: could the localized outbreak have been prevented from becoming a national epidemic?.

This underscores the importance of field epidemiological work, which is essential for controlling diseases in the population, both communicable and chronic. It also highlights the effectiveness of epidemiologists in correctly applying the key principles and elements of epidemiological surveillance.

Often, prioritizing the control of communicable diseases in their acute phase minimizes or ignores the consequences for individuals and populations. In the case of the disease caused by the Chikungunya virus, the aftereffects are disabling and become a new "health problem," not only in the biological and psychological spheres of individuals, but also transforming into a social and economic problem by limiting the mobility of those affected for months and even years, reducing their work capacity. In this Cuban epidemic, these aftereffects have been one of the main consequences of the disease, although data on the number of people affected—another essential element for the proper functioning of the epidemiological surveillance system—are not available.

Conclusion

As one of the fundamental uses of epidemiology, surveillance must be implemented correctly. When surveillance is effective, efficient, and effective, it contributes to reducing risks, diseases, and harm in any population. There is ample evidence of its invaluable contribution to preserving and maintaining public health, and whenever failures occur in its implementation, regrettable consequences arise. There are arguments to explain these shortcomings, some justified and others less so, but the reality is that failures should not occur in a system that is fully established and recognized for its strength in protecting the health of the Cuban population.

Conflicto of Interest

The author declare no conflict of interest.

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