## This week in Cuba / May 24 to May 30, 2020



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By Charles McKelvey

In today's "This week in Cuba," we review, first, the leveling of Covid-19 cases, after a thirty-day period of steady decline; secondly, projections for a second mild wave of Covid-19 cases in November; and thirdly, the publication in the daily newspaper Granma of a series of articles on the History of the Coronavirus.

## (1) Cuba steady decline in Covid-19 cases levels

After declining for thirty days from a peak of 847 on April 24, the number of active cases in Cuba ceased declining and leveled off during the past week, with an average of 162 active cases during the week. The number of active cases on a given day is the number of accumulated cases presently hospitalized, excluding those who have been discharged or have died. The number of active cases remains less than the most favorable projections made in early March, so the leadership remains optimistic that the health measures are working and will be able to defeat the virus. The nation had only one Covid-19 related death during the past week.

It is believed that the reason for the leveling is that the people have become overconfident, and some are not following the measures. Non-compliance with the measures has contributed to local transmission events, which have been contained, but they have affected the overall trajectory. The government and the Ministry of Health continue to be consistent in calling the people to discipline, maintaining that the measures cannot be relaxed at this time. They insist that the battle will be won, but it is not yet won.

Dr. Francisco Duran, Director of Epidemiology of the Ministry of Public Health, and Dr. José Ángel Portal Miranda, Minister of Public Health, emphasize the difference in the infection rates according to province. The provinces of Matanzas and the City of Havana have had the great majority of newly confirmed cases in the last fifteen days, with rates of infection of 6.67 and 5.57 per 100,000 population, respectively. In contrast, six provinces have had rates of infection in the last fifteen days of less than one case per 100,000 population. And eight provinces, located in the eastern part of the island, have had no infections at all in the last fifteen days.

The total number of confirmed cases in Cuba as of May 30 is 2,045; 1,809 have been discharged, 82 have died, and two have been evacuated to their countries.

Of the confirmed cases in Cuba, 89.4% contracted the infection through contact with a person previously identified as a confirmed case. Some 50.9% of the confirmed cases have been asymptomatic at the time of their testing positive, which is an important factor in the maintenance of the health measures of social distancing and isolation. Of the confirmed cases, 87.4% have been discharged from the hospital; and 4.09% have died, a fatality rate lower than the rate of 6.28% in the world. The infection rate is 17.9 per 100,000 population, much lower than that of many countries. The United States, for example, has an infection rate of greater than 500 per 100,000 population.

## (2) Cuba projects a second mild wave of Covid-19 cases in November

Dr. Raúl Guinovart Díaz is Dean of the Faculty of Mathematics of the University of Havana and head of a team of Cuban specialists that have been developing mathematical models and have been advising the Cuban government. He projects a second wave of active cases in Cuba in November. The second wave will be far less intense than the first, reaching at its peak 285 active cases, in contrast to the peak of 847 active cases on April 24. It is expected that the present wave will continue to decline to near zero, but a second wave is likely, because it is projected that 0.4% of the of the population will have been infected by Covid-19, while 70% will be vulnerable to infection. It is normal for pandemics to pass to an endemic stage, in which the initial outbreak is followed by subsequent waves, with each new wave less intense that the previous.

Dr. Guinovart allowed for the possibility that the number of cases will fall to zero and will not encounter subsequent waves, but he considered it unlikely. Due to the fact that fifty percent of the confirmed cases are asymptomatic, it would be unlikely that the disease could be effectively stamped out. On the other hand, it is equally unlikely that Cuba will experience a second wave that is more intense than the first outbreak, as is likely to occur in many countries in which necessary health measures have not been consistently applied.

## (3) The history of the coronavirus

During this past week, there appeared in the Granma daily newspaper a series of articles on the history of the coronavirus. It reports that in 1899, the Dutch microbiologist Martinus Beijerinck proposed that there exist entities smaller than bacteria, which he called virus, from the Latin word, meaning toxic or poisonous. In 1931, with the invention of the electronic microscope, the German engineers Ernst Ruska and Max Knoll took the first images of a virus. During the course of the twentieth century, scientists developed techniques for isolating viruses. However, their investigations left many viruses undetected; only about 35% of persons with the common cold had a virus that scientists were able to identify. Viruses are not living organisms, because they lack the cells necessary to reproduce, and they need the cells of a

host in order to reproduce.

Since 1965, seven viruses have been discovered that are known as coronaviruses, because their surface appears similar to the external layer of the sun, called corona. The first two cause only light symptoms. The coronavirus named 229E was discovered by Dorothy Hamre, a researcher at the University of Chicago, in 1965. The coronavirus OC43 was discovered by Dr. McIntosh, a researcher at the Medical School of Harvard University in 1967. The third and fourth coronaviruses, HKU1 and NL63, cause light to moderate symptoms; they were discovered in Hong Kong in 2005 and Holland in 2004. The fifth, sixth, and seventh coronaviruses cause serious symptoms. SARS-COV-1 began in China in 2003 and later extended to 29 countries; it infected 8,096 persons and caused 774 deaths. MERS-COV was identified in the Middle East in 2012; it infected 2,494 persons, resulting in 858 deaths. And SARS-COV-2, the virus that causes COVID-19, was identified in China in 2019.

The new coronavirus is able to change with relative ease. Three variants have been found. Type A has been found in patients in Wuhan, China and in the United States and Australia. Type B, the dominant type in Wuhan, has not been found much beyond that region. Type C is the variant found in Europe, Singapore, Hong Kong, and South Korea.

Efforts were made to develop vaccines for SARS-COV-1 and MERS-COV. However, when these epidemics were contained, the vaccine research ceased. For many, these early coronavirus epidemics were clear warnings of the dangers of the coronavirus, but there was not an immediate market for a vaccine for these contained viruses, so research did not proceed. If research on the vaccines had continued, the world would have been much better prepared for the COVID-19 pandemic.

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