Researchers from the Mayagüez Campus of the UPR create an application that allows data collection and monitoring of COVID-19 cases [1]

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By:

Comunicado de Prensa

Casos nuevos positivos			Recuperados hoy	Fallecidos hoy
5 Totales	3 Con Síntomas	2 Asíntomaticos	1	3

Total de casos activos	Total recuperados	Total fallecidos
21	1	9

Total casos analizados		Total casos positivos		Total casos negativos		Total casos en espera
36	=	29	+	5	+	2

Camas de hospital			Ventiladores		
martes, mayo 19, 2020 ⌄			martes, mayo 19, 20... ⌄		
345 Total	183 Ocupadas	162 Disponibles	96 Total	38 Ocupados	58 Disponibles

A group of professors and students from the Mayagüez Campus (RUM) of the University of Puerto Rico, created an application to document and monitor the cases of patients infected with COVID-19 on the island. Through a portal with live data, the platform allows greater visibility of trends, and, at the same time, organizes the information in a database that would allow future analyzes on the progress of the disease and its possible effect on the development of subsequent health situations. Likewise, it would facilitate deep correlational studies that could shed the cases and carry out eventual investigations that result in important findings about the virus.

This was announced by Professor Mercedes S. Ferrer Alameda, principal investigator of the project, who is director of the Office of Planning, Research and Institutional Improvement (OPIMI) of the RUM. Together with a work team, also composed of Dr. Bienvenido Vélez, dean of the College of Engineering and co-investigator, as well as students Joshua Cruz and Gabriel Huertas, both from Software Engineering; Isis Narváez, a doctoral student in Bioengineering, and Lina Villa, who is doing a master's degree in Industrial Engineering, completed the feat that is now ready and available to be used. Rosie Calderón, director of the RUM Medical Services Department, also participated, whose collaboration to obtain feedback from the perspective of health service providers was vital to the design of the tool.

As explained by the also professor of the Department of Industrial Engineering, the application, which they have called Dashboard COVID-19, was originally conceived so that hospitals could record all the cases admitted to their institution, so that the data is organized with a number assigned to the patient, to whom, under strict confidentiality, their health status, their pre-existing

conditions, their progress and their recovery process can be followed.

"When we started, it was precisely when the Department of Health had practically no data, nor did we know how many patients were in the hospitals. From the beginning of this pandemic, it was clear that this is a disease with many symptoms, so we wanted to try to understand what was happening, how many people it was, as well as the total number of those who had these symptoms and ended up in detention. There was another big concern that was the hospital resource, the perception was that we were going to run out of fans, beds and enough equipment. We were blind in those instances, so the main motivation was to provide the country with information on those resources and the progress of the virus, "Ferrer Alameda asserted.

According to the researcher, the application is very simple, easy to access and use, and allows health providers to complete the information or modify it from their mobile phones or tablets with a unique and controlled identification that would be provided to them. The collective also received medical advice from an expert team from the western region to meet all expectations and requirements.

"The idea is that each institution enters a summary of the cases daily, but tying them down, as if it were a patient file and the situation is updated. Right now, the system the Department of Health does not report how many people have recovered. Our application also allows analysis based on the conditions with morbidities because it includes whether the patient is diabetic, has high blood pressure, cardiac or respiratory problems, so that, eventually, trends can be observed with different patients , also by age, sex and even the town. It gives you the option of moving the patient through the different stages, from the time he arrived to the emergency, what his symptoms were like and whether he returned home or was admitted again ", he explained.

According to the professor, one of the main advantages of this application is the space it provides for future research, in charge of the medical or scientific community interested in carrying out more advanced studies. In addition, it would help provide a more complete picture and better understand the behavior of the virus in the Puerto Rican population.

"Our platform directly reads the live data and keeps updated all the statistics of hospitalized, ventilated, ICU, admitted, how many negative and positive tests there are, what type of tests were performed, and what the symptoms were like. That goes to a central database. The intention is to deliver the project to the Department of Health because as a government custodian, it could enter the patient's Social Security number, duplicate data is avoided, and greater follow-up would be guaranteed, "he stressed. At the same time, he explained that the agency has been approached to present the project, but no response has yet been received.

For his part, the president of the UPR, Dr. Jorge Haddock, highlighted the health and social impact of this project.

"In the social context in which we find ourselves, our teachers and students continue to innovate and undertake with their knowledge and talent for the benefit of the communities. They are a source of great pride. At present, there are more than a dozen investigations and initiatives that have emerged from the eleven campuses and units of the University of Puerto Rico to, in one way or another, contribute to the end of the pandemic at a global level. As the main teaching and

scientific center in Puerto Rico, once again, we put the knowledge and talent of our university community at the service of the people, "said Haddock.

Likewise, the rector of the RUM, Dr. Agustín Rullán Toro, congratulated the team for their initiative, so necessary in the challenging times of the pandemic.

"Our Campus has the best resources and experienced scientists, engineers and researchers who have contributed from their respective fields and disciplines to possible solutions to face this terrible health crisis. The work of Professor Ferrer Alameda and her work group is an example of the best use of these talents in the well-being of the country and society, which is undoubtedly part of our mission as the main public education institution in Puerto Rico ", reiterated the Rector.

Professor Ferrer Alameda's project is one of those that have emerged in response to the call to seek solutions that directly impact the community in the midst of the pandemic crisis. It has the support of the Center for Technical Response and Innovation, created in the RUM for these purposes.

Tags:
- #Covid19 #UPRMayagüez [2]

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