



COVID-19 in Peru

Report - June 1st 2020

IANAS Videoconference

National Academy of Sciences of Peru

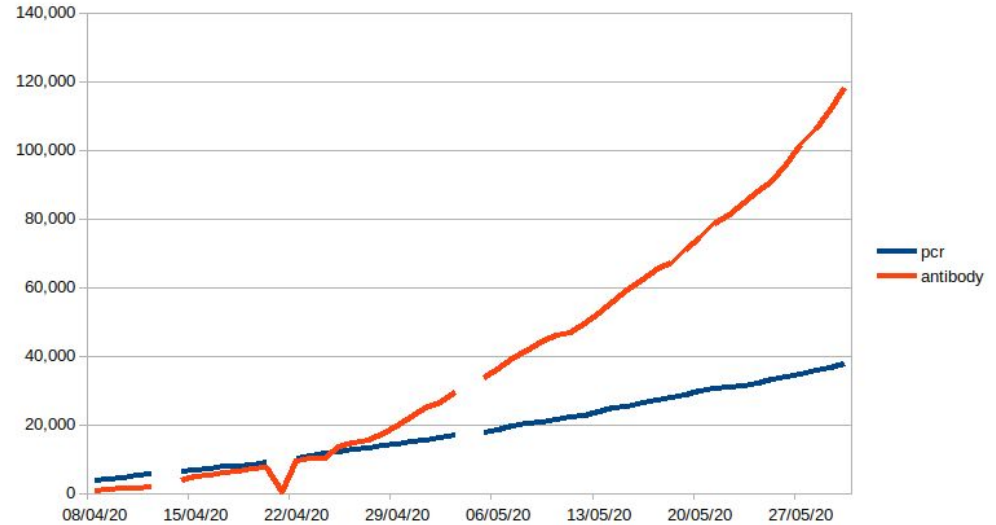
Dr. Gustavo Gonzales Rengifo, President

Representative
Jose Segovia-Juarez, Ph.D.

1. COVID-19 in Peru

1. The National Academy of Sciences of Peru, issue a warning on COVID-19, Feb 17, 2020, urging authorities to prepare.
2. First reported case in Peru, march 6th, 2020. Quarantine, March 16, cont.
3. Presidential advisory group formed, with some academicians as members, Dr. Ciro Maguiña.
4. May 8th, 2020, Ministry of Health approved scheme of treatment including Ivermectine + HCQ + AZ
5. On 30-05-2020, 4371 deaths. In may, average of 87 deaths / day. Highlands spare.
6. On 30-05-2020, medical facilities are near capacity.
7. Some regions like Loreto (Iquitos), seems passed a wave.

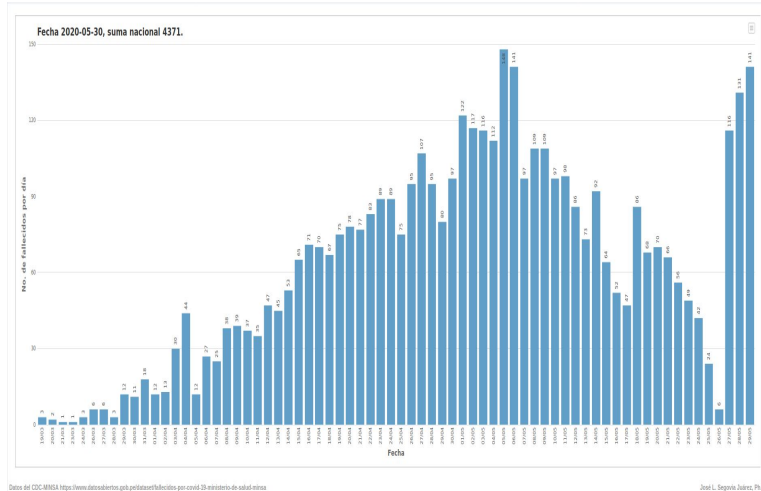
SARS-CoV-2 tests results



PCR & antibody tests, positive results

<https://web.ins.gob.pe/>

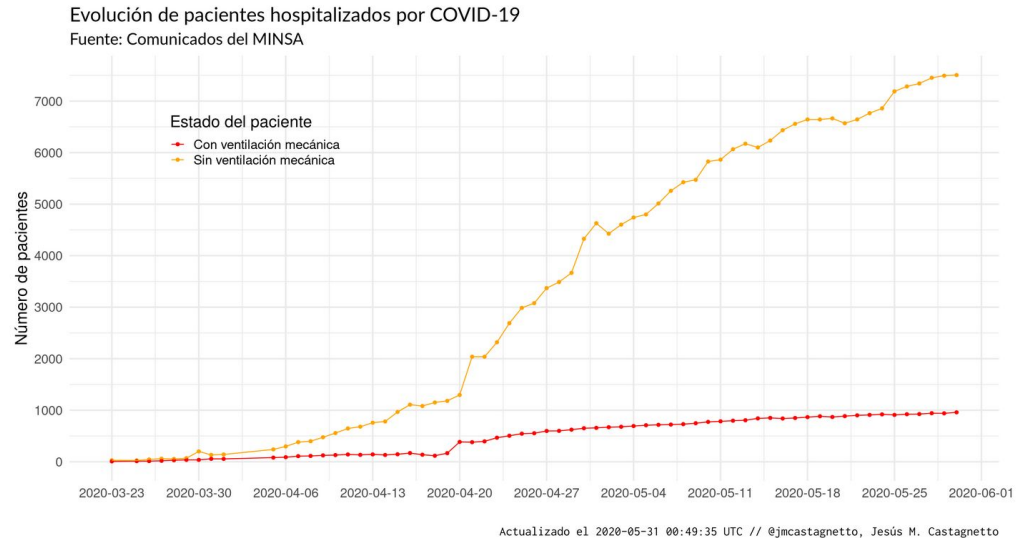
Peru, daily deaths - reported & Hospitalized



In May, average 87 deaths/day, median 92 d/d

Open Data: Applications for data, deaths, tests.

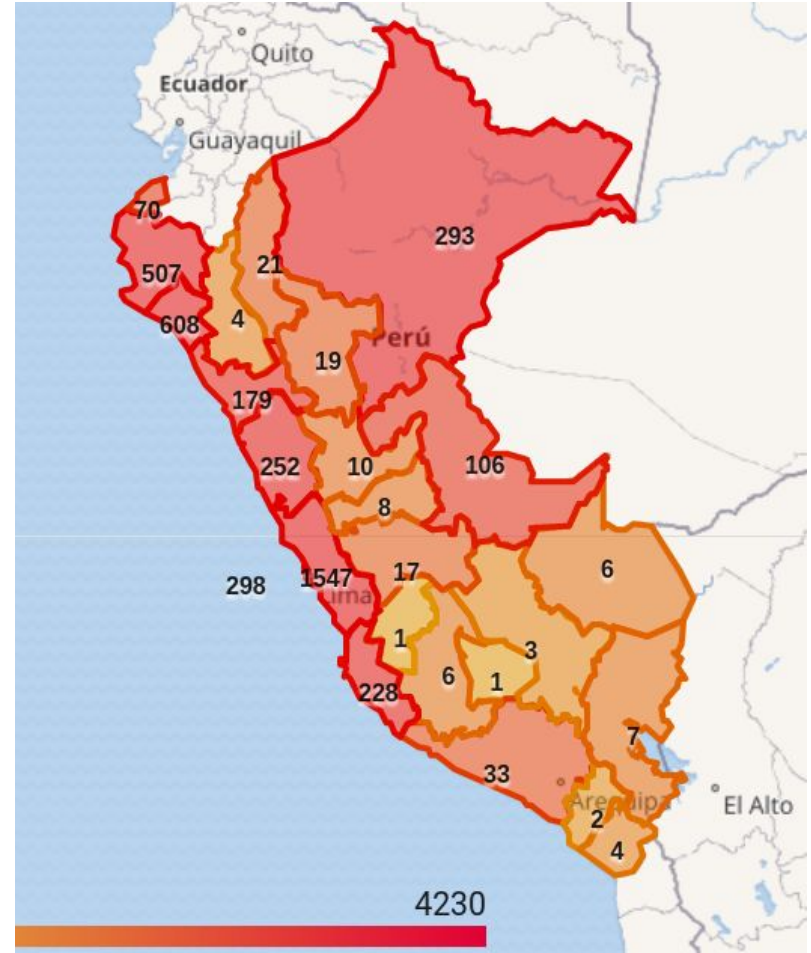
https://www.datosabiertos.gob.pe/search/field_topic/covid-19-917



Hospitalized COVID-19 patients, ICU to capacity

Andean regions spared

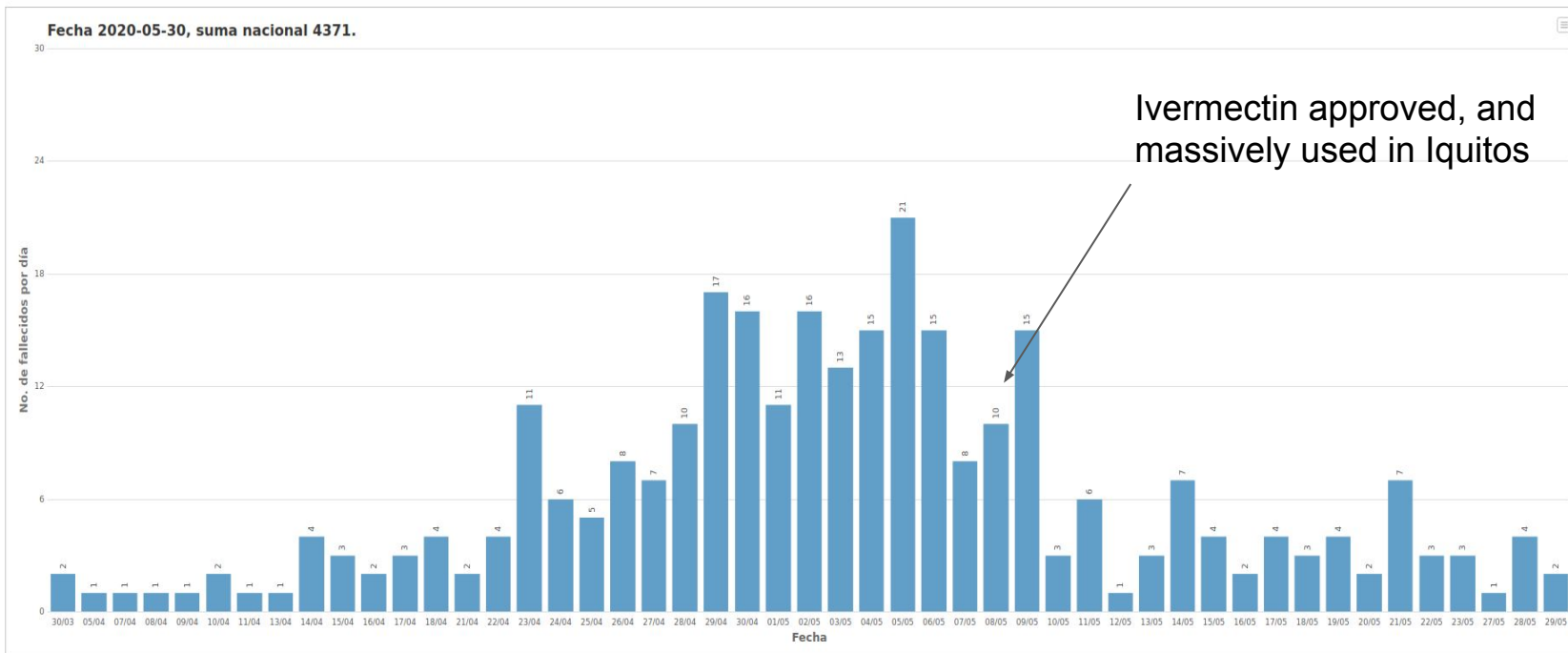
Low number of deaths in highlands
> 3000 mamsl, due to genomic
characteristics and/or
sparse population.



Deaths in Loreto region (Iquitos)

Región: Igual a LORETO x + Agregar filtro

Guardar filtro x



Ivermectin approved, and
massively used in Iquitos

R & D, Mirko Zimic, Ph.D., UPCH & others

- Construction of mechanical ventilators, to be approved for production.
- Development of a serological diagnostic test. In R&D, in progress.
- R&D of Vaccines, in the preclinical phase in mice. Collaboration with Mexico.
- Treatment with antibodies from chickens as therapy for severe cases, it has been shown that chickens that have been immunized with virus proteins and produce antibodies against the viral protein, pass it to the egg. From blood or antibodies purified from the chicken's egg. Start of pre-clinical trial in pigs.
- Treatment with alpaca (*Lama pacos*) antibodies, infecting animals, purifying b lymphocytes, selecting which produce antibodies of interest, extracting genetic material, cloning, and producing the antibodies in laboratories. In two weeks they will produce DNA.

Dr. Mirko Zimic Ph.D. Universidad Peruana Cayetano Heredia & others

mirko.zimic@upch.pe

R & D, Pohl Milón, Ph.D., UPC & others

UnCovid

Molecular detection of SARS-CoV-2 using CRISPR / Cas, High molecular sensitivity and specificity Incorporated in electronic data collection system

Steps to follow and potential cooperation:

Multi-center clinical validation

Scaling up production and distribution

Application of the system in other infectious

Other Covid projects:

Mass Screening of SARS-CoV-2 Main Protease Inhibitors

Aptamers as Possible Inhibitors of Spike / ACE2 Interaction

Pohl Milón, Ph.D. Email: pmilon@upc.pe

Conclusions

1. COVID-19 cases are steadily increasing, however deaths seem to be holding, even decreasing in some regions.
2. Collaborative efforts for treatments, PCR Tests, vaccine development, & mathematical modelling.

Additional information regarding collaborative efforts:

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