

# App helps doctors find the right dose of COVID-19 medications

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Leiden researchers have developed an app that doctors can use to more easily determine the right dosage of medication for coronavirus patients. At the moment, doctors are prescribing many existing kinds of

medication to patients. Using the app, they can determine a safe and effective dosage.

## Existing medication

While the corona [virus](#) is affecting more and more patients, doctors and researchers are busy finding an effective treatment. Because the development of new medications can take a long time, doctors often use existing treatments. But for many of these drugs, it is not yet known what the safe and effective dosage should be when dealing with COVID19, the disease caused by the corona virus.

Coen van Hasselt's research group, part of the Leiden Academic Centre for Drug Research has developed [an app](#) doctors can use to determine what dosage of several kinds of drugs is best suited for a patient. Van Hasselt's group usually researches antibiotics, but has temporarily switched to COVID19 due to the corona crisis.

## Mathematical models

Coen van Hasselt explains how the app can contribute: "There are many types of drugs being used to treat [corona](#) patients, but we hardly know how effective they are. We often only know how well they inhibit the virus in a petri dish, but that is obviously not the same as a live patient."

Many of these drugs have been used for other diseases like malaria and HIV for years, therefore their behavior in the body is well understood. We know how these drugs move through the body and what specific tissue they end up in, such as the lungs where the coronavirus is.

"Using mathematical models, we can combine our knowledge of how these drugs move through the body with everything we know about

inhibiting COVID19," van Hasselt explains, ' We've already found that current dosages of hydroxychloroquine don't reach the infection in children. That would mean we might have to alter the standard dosage for them."

The researchers are now working on creating [a user friendly web application](#) that allows [doctors](#) to gain insight in correct dosages against COVID19, without specialist pharmaceutical knowledge. In the coming weeks and months, they will continue to expand the app to include new medications that might be used against COVID19.

**More information:** Leiden Academic Centre for Drug Research  
COVID-19 app: [www.covid19pkpd.eu/](http://www.covid19pkpd.eu/)

Provided by Leiden University

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