

## COVID-19, what we can learn from history

**In the past, several waves of contagious diseases have threatened humankind. Sometimes on a large scale, others more on a local scale but the pattern still comes back. The structure and organization of our healthcare system are decisive factors in our approach to the pandemic. Besides, we have learned from the past that applying basic rules such as social distancing and hand hygiene measures are important to prevent the SARS-CoV-2 virus from spreading, summarizes Professor Guy Joos, Head of the Department Respiratory Medicine at the University Hospital of Ghent.**

The impact of the Sars-CoV-2 virus is tremendous. It is undermining health care systems, confronting health care providers with their limits of cure, and putting the social, economic, and public life under stress. Due to our well-organized healthcare system, a substantial number of hospital beds and ICU-beds, the social distance rules, and good hygiene practice Belgium got away from a disaster. But at the same time, we learned that good prepared first-line care is indeed very important and could have been better supported, for instance with personal protection material.

The development of a vaccine against SARS-CoV-2 will take some time. Therefore, in the acute phase, interventional trials seem to be important to find the best optimal treatment. Examples are the nebulization of GM-CSF (Sargramostim), acting on lung macrophages, with the potential of improving oxygenation, and trials with anti-cytokine treatment already in use for auto-immune diseases.

Professor Guy Joos is convinced that the solution lies in a combination of different measurements: to avoid the spread of the virus, the approach in the acute phase, and the development of a vaccine in the long term. Also, the lessons from history can give us some insights: during the Polio epidemic in the Fifties, there was a huge need for respiratory ventilators, a situation that can be compared with the acute need in many countries during COVID-19. He points out that logistic support is an important factor in the fight against the virus and should be a lesson for the future. It will certainly influence our future view on how we must organize our hospitals, healthcare systems, and elderly homes.

### Prevention and chronic diseases

The COVID-19 disease starts with contamination by Sars-Cov-2 followed by an incubation period. The viral response phase is followed by a second phase, marked by a host inflammatory response which can vary from mild symptoms to a massive reaction with an overflow of

cytokines, ARDS, systemic effects on the heart, kidneys, and even thrombosis.

As for influenza, the severity of COVID-19 is linked to the co-morbidities associated with chronic diseases. We knew already that obesity, hypertension, and non-communicable diseases such as cardiovascular morbidities, cancer, and diabetes are risk factors for severe COVID-19. This underlines once again the importance of prevention for chronic diseases. Every euro spent on prevention pays itself back. If we had done more in prevention, maybe we could have saved more lives and perhaps lessened the economic impact of COVID-19.

### New approaches

Hopefully, the pandemic of COVID-19 will learn some lessons. The pandemic has introduced certain new approaches such as the possibility of teleconsultation. In Belgium, this approach is nearly new and brings some important advantages for the follow-up of patients with chronic lung diseases. We can avoid waiting lists and in certain cases, it can be an answer to the patient's questions and can improve the follow-up and therapy compliance.

### Conclusion

Certainly, the knowledge of viral infections does take-off: at this moment there are worldwide 1.400 trials on COVID-19, including 26 Belgian studies, registered in ClinTrials.Gov. Videoconferencing will be a booming business over the long term and avoid unnecessarily long-distance traveling.



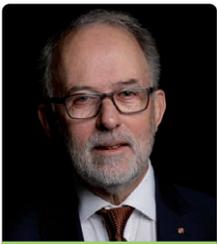


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Point of View

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He was President of the Belgian Thoracic Society in 2010 and 2011, and President of the European Respiratory Society (ERS) from september 2016 to september 2017. He is currently member of the ERS Advocacy Council.

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