

# The Effect of COVID-19 Precautions on the Transmission of Seasonal Respiratory Viruses

Robert Brennan, Niall O'Mara, Rachel Barry, Susan Laphorne, Eddie McCullagh, Catherine Dempsey, Marianne Nolan, Michael Prentice  
Cork University Hospital, Clinical Microbiology Department

## Introduction

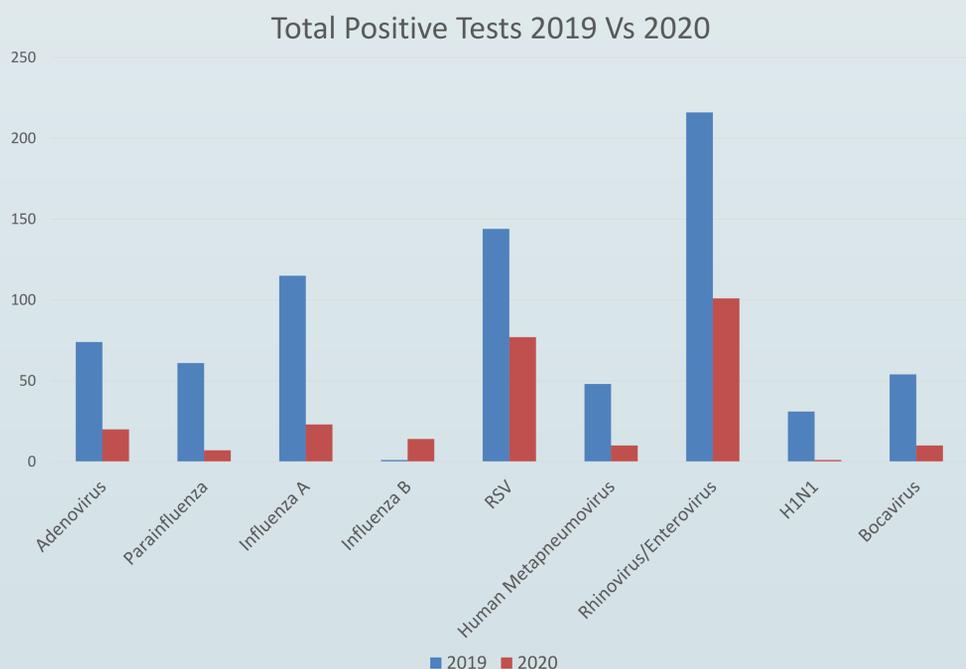
On the 11th March 2020, WHO declared Covid-19 to be a pandemic. On the 27th February 2020, the first case of Covid-19 was diagnosed in Ireland and by March 27th, Ireland was placed in full lockdown.

Subsequently, considerable social and environmental changes have been implemented. Disease control measures to limit COVID-19 transmission have included social distancing, closure of schools and colleges, work-from-home initiatives and prohibition of large gatherings. We postulate that this has had the secondary effect of lowering the transmission of other respiratory viruses, particularly seasonal respiratory viruses among the paediatric population. To date, this has not been considered in an Irish context.

## Methodology

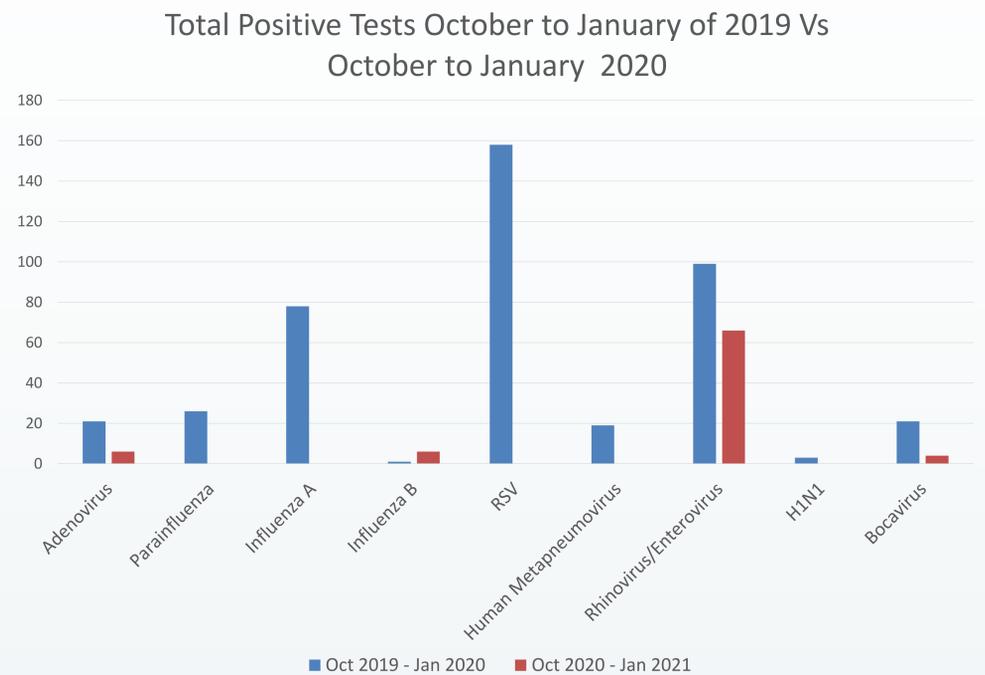
We collated all data from respiratory virus multiplex PCR testing (BioFire FilmArray) at Cork University Hospital in patients under the age of sixteen from January 2019 to February 2021. We recorded the incidence of nine separate respiratory viruses; adenovirus, parainfluenza, influenza A, influenza B, RSV, human metapneumovirus, rhinovirus/enterovirus, H1N1 and bocavirus. We compared the total occurrence between 2019 and 2020 as well as a focused view of the seasonal virus period, October to January of the following year.

## Results



## Acknowledgements

We would like to thank all the staff of CUH Microbiology Laboratory for being constantly excellent colleagues.



## Conclusion

We hypothesise that this reduction in seasonal respiratory viruses is a secondary outcome of disease control measures in response to COVID-19. Of note, it is likely that any positive influenza tests from the 2020 flu period are the result of previous vaccination. Also of note, while a large number of RSV cases were reported in 2020, they were all from January and February of that year, which is in line with national surveillance figures.

## Discussion

The initial public health measures implemented likely facilitated an initial control of Covid-19 transmission. The subsequent lockdowns extending into the winter period have coincided with the traditional peak of seasonal respiratory viruses.

It is known that school-aged children play an important role in the spread of these seasonal viruses. It is possible that when schools reopen that this may lead to an extended period of seasonal virus transmission, with a delayed peak yet to be observed.

It is also possible that changes in traditional health seeking behaviour may have led to the observed reductions in measured viruses. We were only able to obtain data on the total number positive results and the overall incidence of positive results should be compared to previous years. We hope to continue to collect this data and hypothesise that this may show a closer relationship to the timeline of public health measures.

It will be interesting to see, when stricter measures are lifted, if the observed lower levels of recorded viruses will continue. Or if newly learned personal health measures will have an effect in future years to come.