

Literature review on the disease burden due to respiratory infections in Switzerland and public health mitigation measures

Anthony Hauser¹, Marie Bettex¹, Karine Moschetti¹, Yolanda Mueller², Julien Riou^{1*}

¹Department of Epidemiology and Health Systems, Unisanté, Center for Primary Care and Public Health & University of Lausanne, Lausanne, Switzerland

²Department of Family Medicine, Unisanté, Center for Primary Care and Public Health & University of Lausanne, Lausanne, Switzerland

[*julien.riou@unisanté.ch](mailto:julien.riou@unisanté.ch)

Summary

Respiratory infections remain an important cause of illness, death, and healthcare use in Switzerland. We conducted a scoping review to map the burden of influenza, respiratory syncytial virus (RSV), and SARS-CoV-2, with additional targeted searches for seven other respiratory pathogens. Of the 2,523 articles screened, 58 met the inclusion criteria; 13 additional articles were later identified, and grey literature was also incorporated from national surveillance and the Global Burden of Disease study. Seven indicators were examined: outpatient visits, reported cases, hospitalisations, intensive care admissions, mortality, seroprevalence, and disability-adjusted life years (DALYs). Influenza and RSV accounted for the largest seasonal burden, particularly in infants and older adults. SARS-CoV-2 showed similar to higher in-hospital mortality than influenza in the endemic phase. In addition to RSV, SARS-CoV-2, and influenza, *Streptococcus pneumoniae*, *Mycoplasma pneumoniae*, and rhinoviruses also contributed substantially to the burden of respiratory infections, though data remains limited. Strengthening and extending surveillance systems, including serosurveys and outpatient monitoring, will be essential to obtain more complete and timely data on respiratory infections. Economic estimates indicate that influenza generates CHF 42-73 million in annual healthcare costs and more than CHF 100 million in productivity losses, with RSV and pneumococcal pneumonia also generating high costs. Economic impact estimates for SARS-CoV-2 were not available for the post-pandemic period. Vaccines and some targeted non-pharmaceutical measures (e.g., ventilation or masking) are effective ways to reduce the disease burden and will remain important during the post-pandemic period. Gaps remain in Swiss-specific data, especially for seroprevalence estimates.