Joanne Lacy

Two of Joanne's projects used data from the Zurich SARS-CoV-2 Cohort (ZSAC) and the Zurich SARS-CoV-2 Vaccine Cohort (ZVAC) which are two population-based, prospective cohort studies that followed individuals infected with and/or vaccinated against SARS-CoV-2 from the early stages of the pandemic until 2025. In these projects, she evaluated the risk of breakthrough infections and compared clinical prediction models to identify the most accurate approaches and the most informative predictors of infection risk. In collaboration with researchers from the Institute of Mathematics and the Physics Institute at the University of Zürich, she also explored the potential of machine learning methods to predict breakthrough infections, comparing model performance and interpretability.

Another key project involved a collaboration with the SUPRISE+ study, which followed healthcare workers in eastern Switzerland. This study assessed breakthrough infections presenting as influenza-like illness symptoms and compared infection rates between individuals who received a SARS-CoV-2 booster and those who did not, using inverse probability of treatment weighting (IPTW) and negative binomial regression methods.

Finally, through the Swiss Learning Health System (SLHS), Joanne authored a policy brief on strengthening pandemic preparedness. The brief proposed strategies to enhance surveillance for respiratory viruses by expanding coverage, improving coordination between stakeholders, and building public trust through transparent communication.