Annual report 2024

Throughout 2024, the Swiss Pathogen Surveillance Platform (SPSP), coordinated by SIB, has achieved significant progress in expanding SPSP to bacterial monitoring within a One Health context. The SPSP Executive Board, meeting five times this year, provided strategic oversight, with a well-attended Annual Meeting in June 2024 drawing participation from 55 stakeholders from 21 institutions, including FOPH and FSVO. In November, an in-person workshop will further solidify data submission and platform functionality discussions.

Key milestones include a legal framework overview for data sharing and revisions planned for 2025/2026 to comply with future Epidemic Act revisions. A foundational step for pathogen data management has been the development of a bacterial instance within SPSP. This instance integrates the IMMense pipeline, developed by the University of Zurich, to facilitate seamless, species-specific genomic analysis. Notably, antimicrobial and virulence prediction modules were updated to incorporate state-of-the-art tools and are now operational on SPSP.

Progress has also been made in aligning SPSP's export capabilities with the European Nucleotide Archive (ENA), now allowing bacterial data sharing. Curated data from the University Hospital of Basel are actively being validated to refine the platform's robust data handling and curation features. Meanwhile, the Listeria-specific module, developed in collaboration with the National Reference Centre for Enteropathogenic Bacteria and Listeria (NENT) is nearing completion. This includes custom metadata validation aligned with the NENT and the European Food Safety Agency's standards, as well asListeria-specific bioinformatics workflows, e.g. for serotype prediction. Listeria data submission will open by the end of 2024, following final metadata adjustments.

Overall, SPSP is on track to fully operationalize its generic bacterial pipeline by year-end, with pathogen-specific advancements paving the way for integration of pathogen-specific instances.