How have we changed from sentinel to sentinel free health monitoring in Turku?

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Extensive research has been carried out during the past years provide evidence on the reliability of environmental testing in rodent health monitoring (HM). Reduction of animal use, need for improved pathogen surveillance and saving cost and time has prompted us to consider switching from dirty bedding sentinel to sentinel-free HM approaches. We normally perform quarterly sentinel HM in our two rodent facilities containing about 29 000 mice and 3000 rats during 2023. At each health monitoring, 4-6 mouse rooms and 1 rat room is sampled per rodent facility according to predetermined rotation. Pooled feces, dry oral swab and fur samples were obtained from sentinel cages placed in the bottom of each IVC- or open cage rack, in addition to an Optispot-sample, which was taken from one animal in a sentinel cage. We piloted the SFSB (sentinel free soiled bedding) method in parallel to sentinel method in Q1 sampling 2023. On July 2023 (Q2) we used SFSB method as a sole sampling method, while we kept our sentinels as backup. On Q4 in 2023, we used only SFSB method and did not renew the sentinel animals anymore. In the pilots and Q1 of 2024 we used cotton swabs as a method of obtaining the material for PCR testing, but after Q1 of 2024 onwards we have used IDEXX REPLACE™-matrix. Our results show that non-animal SFSB method detect reliably pathogens and saves cost and technicians' time and Reduce animal use.