

Waste worker cohort – Denmark

In recent years, the European Green Deal has accelerated efforts to increase the recycling of materials, with the goal of promoting a circular economy. This may have a negative impact on the health of workers handling what was previously considered as waste.



Who is included in the cohort

The cohort includes waste collection workers, waste receiving and pretreatment workers as well as sewage workers.

Work exposure

The workers participate with exposure assessment during whole workdays. Exposures are analysed for microorganisms, dust, endotoxin, metals, and particles.

Immune responses

Workers are asked to give a blood sample in the end of the workday. Blood samples are analysed for markers of inflammation, metals, and genomic changes to assess the impact of work exposure and its link to immune responses.

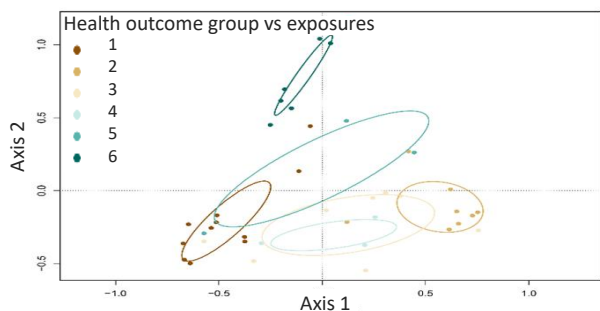
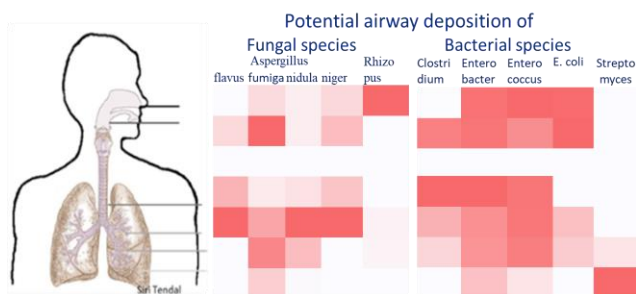
Work history and health

The workers are invited to fill out a questionnaire on work history, their working environment, home environment, and health symptoms.

Microbial exposure

Handling of waste is associated with exposure to a wide range of airborne fungi and bacteria – each type of waste with different exposures.

In biowaste plants, the potential deposition in the airways seems to differ between different species (figure below¹).



Work related health

Using statistical analysis, we investigate whether there is an association between different health related outcome groups and different exposures (left figure).

In the long term, the results should be used to protect waste workers for exposure having a negative impact on their health.

Reference¹ doi.org/10.1016/j.wasman.2024.05.018

EXIMIOUS AND THE EXPOSOME

EXIMIOUS is a European research project that aims to develop a new way of assessing the human exposome, to better understand the factors that lead to exposure-related immune effects at different stages of people's lives.

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